How B&O Rips Out Surplus Track

January 4, 1960

RAILWAY AGE *weekly*

PRR's Top Train Grosses $5 Million

Luxury service taps big New York-Chicago market

Air Freight

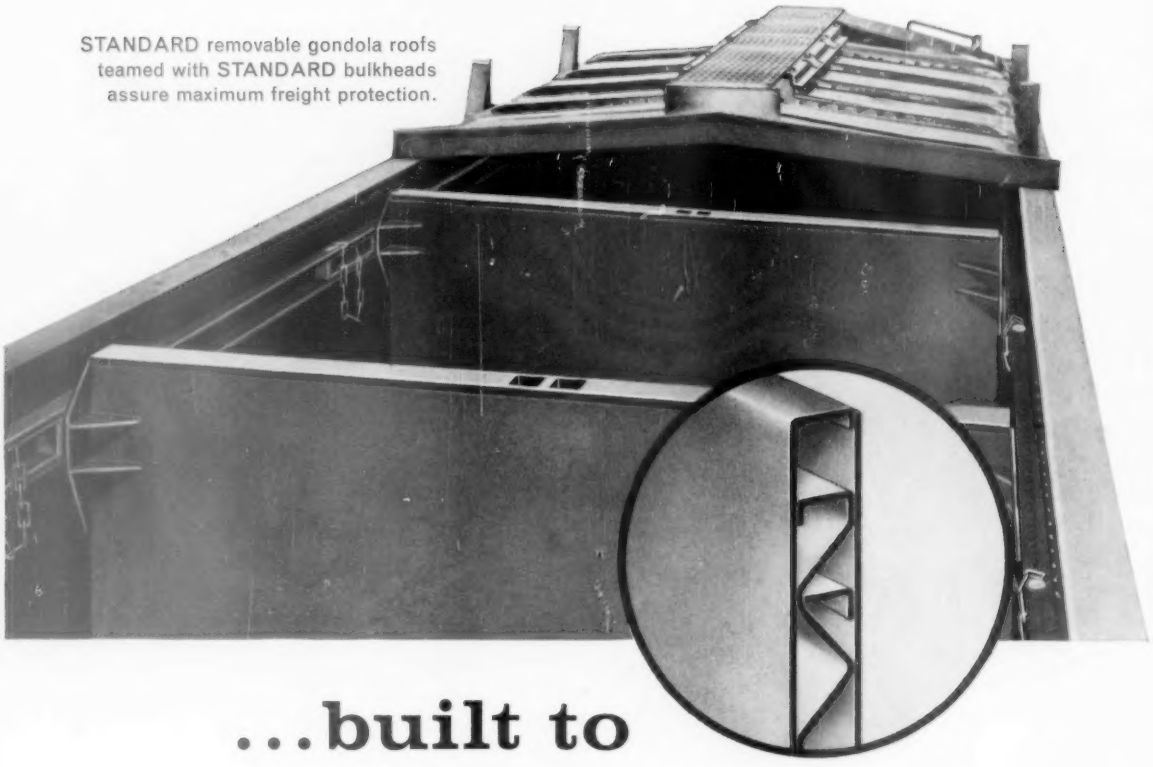
New aircraft will boost payloads, cut operating costs to truck level

60 cents A Simmons-Boardman TIME-SAVER Publication

✓ *Here's STANDARD'S responsibility to the railroads at work . . .*

Bulkheads by STANDARD

STANDARD removable gondola roofs teamed with STANDARD bulkheads assure maximum freight protection.



. . . built to take a beating

Standard Bulkheads have impact-resistance built right in. A corrugated plate liner provides the resilience and spring action needed to absorb the bumps and bruises bulkheads are bound to take from shifting loads.

To meet individual requirements Standard's Bulkhead locations are adjustable longitudinally in increments of 1″, may be reversed to provide floor clearance where desirable. Bulkheads are made with steel facing, although wood sheathing can be applied.

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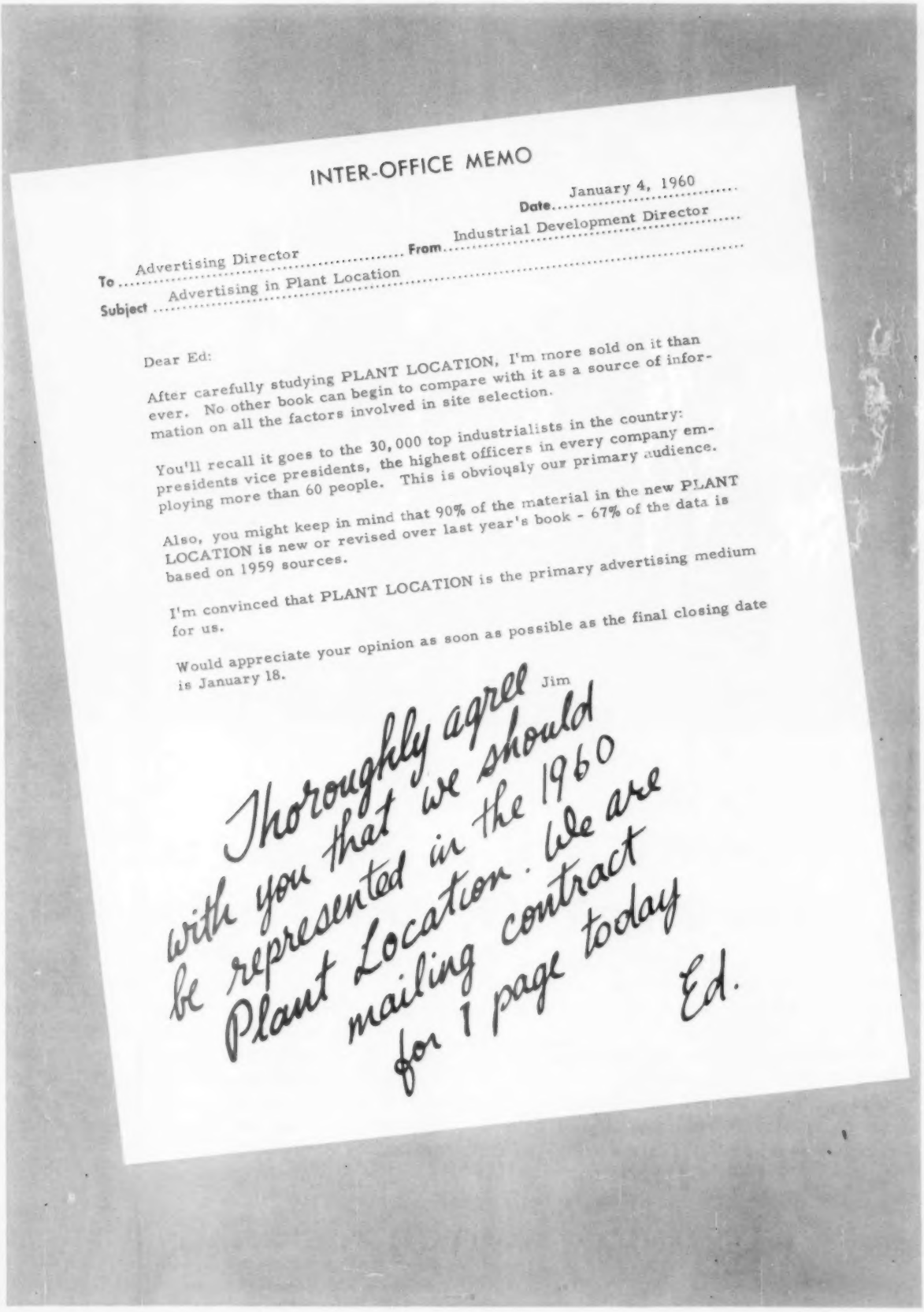

INTER-OFFICE MEMO

Date January 4, 1960

To Advertising Director From Industrial Development Director

Subject Advertising in Plant Location

Dear Ed:

After carefully studying PLANT LOCATION, I'm more sold on it than ever. No other book can begin to compare with it as a source of information on all the factors involved in site selection.

You'll recall it goes to the 30,000 top industrialists in the country: presidents vice presidents, the highest officers in every company employing more than 60 people. This is obviously our primary audience.

Also, you might keep in mind that 90% of the material in the new PLANT LOCATION is new or revised over last year's book - 67% of the data is based on 1959 sources.

I'm convinced that PLANT LOCATION is the primary advertising medium for us.

Would appreciate your opinion as soon as possible as the final closing date is January 18.

Jim

Thoroughly agree with you that we should be represented in the 1960 Plant Location. We are mailing contract for 1 page today

Ed.

Southern Pacific Company, Tucson, Arizona. Photo courtesy of Tucson Daily Citizen.

1,836 ~~1,400~~ Miles to be controlled by new Union Traffic Control Centers

13

Since the new Union Traffic Control Center was introduced over a year ago, ~~eight~~ NINE railroads have ordered or put into operation ~~12~~ Traffic Control Centers.

These railroads have realized the advantages of Union Switch & Signal's Traffic Control Centers.

With Union Traffic Control Centers, railroads can consolidate the control of CTC in strategic locations and ultimately control an entire railroad from one central point.

A TCC unit takes up much less space than a lever type machine. And it's flexible. A 9-foot basic machine can easily be expanded vertically and horizontally to accommodate additional track diagram modular units. TCC can be applied to all types of interlockings, as well as to CTC. TCC can be used with any existing control system.

Contact your nearest Union Switch & Signal office or representative for full details about TCC.

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UNION SWITCH & SIGNAL

DIVISION OF WESTINGHOUSE AIR BRAKE COMPANY

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RAILWAY AGE *weekly* January 4, 1960 • Vol. 148, No. 1

Week at a Glance

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The BLE and BLF&E have declared a truce . . .

ending jurisdictional warfare in Canada for at least the next two years. BLE Grand Chief Guy L. Brown and BLF&E President H. E. Gilbert signed a memo of understanding pledging their respective organizations not to invoke services of the Canadian labor board with regard to representation prior to the next BLE convention (1962). After that, the pact may be ended by either organization on 30-day notice. Immediate effect of the no-raid agreement will be withdrawal of a BLF&E application seeking representation for engineers on Canadian Pacific. The pact does not affect BLE-BLF&E relations in the U. S.

Wage negotiations are expected to resume . . .

this week after a holiday recess. Management sources, meanwhile, reported no new developments on the rules front, although both the BLE and BLF&E have ended local talks and referred the dispute to their national headquarters.

One set of union notices . . .

is being withdrawn—the four-point rules program instituted in 1958 by all organizations except the BLE, and ORC&B. The demands involved a revised time limit rule on grievances, establishment of new rules on hiring, new conditions for safety and sanitation and a program of accident benefits.

Diesel-hydraulic locomotives . . .

may be operating on the Rio Grande in about a year. Three 4,000-hp units have been ordered from a German manufacturer. Reports put the cost of the order at about $1 million. (RA, Nov. 23, p. 9.)

B&O is slashing round-trip coach fares . . .

on all routes, effective Jan. 5. The new rates—ranging from 21% to 33% below present charges—were first tried on an experimental basis. Now they'll apply to all B&O trains between Baltimore, Washington, Pittsburgh and Cleveland, Detroit, Chicago, and important intermediate points. Typical saving: new round-trip coach fare between Baltimore, Washington and Chicago is $38.10, $10.50 below the present fare.

Loss of 5,811 freight cars . . .

from the fleet of Class I railroads came in November. The month's retirements totaled 8,322 cars while only 2,511 new ones were placed in service. Stepped-up repair programs, however, cut the bad-order backlog by 5,264 cars and thus reduced the month's net loss in serviceable cars to 547. Ownership on Dec. 1 was down 40,711 cars from the year-earlier total. The serviceable fleet was down 30,101 cars.

Week at a Glance CONT

Current Statistics

Operating revenues	
10 mos., 1959	$8,199,421,253
10 mos., 1958	7,961,860,842
Operating expenses	
10 mos., 1959	6,432,869,535
10 mos., 1958	6,264,420,838
Taxes	
10 mos., 1959	879,973,498
10 mos., 1958	794,914,728
Net railway operating income	
10 mos., 1959	615,761,783
10 mos., 1958	604,025,748
Net income estimated	
10 mos., 1959	443,000,000
10 mos., 1958	451,000,000
Average price railroad stocks	
Dec. 29, 1959	104.10
Dec. 30, 1958	107.21
Carloadings, revenue freight	
51 wks., '59	30,521,886
51 wks., '58	29,794,062
Freight cars on order	
Dec. 1, 1959	36,555
Dec. 1, 1958	27,962
Freight cars delivered	
11 mos., 1959	34,254
11 mos., 1958	38,058

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Strike Threats Cloud 1960

► **The Story at a Glance: The railroads in 1960 will:**

- **Haul 8-16% more traffic than in 1959.**
- **Lay out $1 billion in capital expenditures, compared with an estimated $850 million last year.**
- **Face a tight car-supply situation as business continues to pick up.**

These are the predictions of the Association of American Railroads, the Department of Commerce, and the American Railway Car Institute—and there's a big "if" attached to all of them. If the steel strike is resumed, and threats of railroad strikes materialize, it could be another year of disappointing revenues—and car surpluses.

"With not too much reluctance," said Erie President Harry W. Von Willer in a year-end statement, "we bid farewell to 1959 and turn our attention to the happier prospects that seem to be in store for us in 1960."

These "happier prospects" were spelled out in hopeful detail last week in a series of new-year forecasts.

The AAR predicted an 8-10% increase in freight carloadings in 1960—"on the assumption that there will be no substantial new work stoppages."

Less cautious was the Department of Commerce, which predicted a 12-16% increase in carloadings—"assuming that no major work stoppage occurs in the railroad, steel, or other key industries."

(The 13 Regional Shippers Advisory Boards foresee an increase of 5.9% in the first quarter of 1960 compared with the same period in 1959.)

The Commerce Department's Business and Defense Services Administration, Automotive and Transportation Equipment Division, also predicted that railroads will spend "at least $1 billion" in 1960 for new plant and equipment—"if revenue from car loadings increases."

The department foresees new freight-car production of approximately 55,000 units, about 60% above 1959.

Warning of a possible car shortage came from the American Railway Car Institute, which urged railroads to "place orders for new freight cars now so as to get on the steel schedules for the spring and have new cars available when they are needed."

"The situation in steel production, coupled with economic forecasts of generally higher business levels in 1960 makes it urgent that cars that are needed be got on the order books at once," said ARCI Secretary Walter A. Renz.

"The almost universal forecast of economists is for a larger business volume next year. The steel strike has dammed up production during the fall of 1959, spreading demand over into 1960. At the same time shortages in steel have been created that will carry well into 1960, even if the strike is not renewed.

"It seems apparent that there will be a need for more freight cars to replace the retirements of the past year, and that unless they go on the order books of car builders soon, steel may not be available for their production and potential railroad carloadings will suffer accordingly."

Mr. Renz noted that the current backlog of cars on order is 36,555, "which will be only a small part of new cars needed if the production expansion that has been forecast materializes."

As Mr. Von Willer pointed out, "Any railroad predictions for 1960 must be tempered by the pending labor problems that are confronting the industry." A clearer idea of what lies ahead on this front will emerge after nation-wide negotiations on the work-rules issue begins, probably this month. A complicating factor is the union's demands for wage increases, and the railroads' counter-proposals for wage cuts.

Of more immediate concern is the possibility that all or part of the steel industry will again close down when the current court-directed truce expires Jan. 26.

Along with its look ahead, the AAR at year's end also took a look back—and, like Mr. Von Willer, found the picture not so good.

The year began promisingly, with first-half carloadings showing a 13% increase over 1958, but the steel strike turned brightness to gloom. The strike cost the railroads 2,500,000 carloads of freight and more than $600 million in revenues. As a result, carloadings for the year averaged only 2.5% above 1958's recession levels, were 13% below the more normal 1957 figure. The industry rang up $9.9 billion in gross operating revenues—a 3.2% increase over 1958—but higher taxes and increased operating expenses held net income for the year to an estimated $590 million. This was slightly below 1958's recession-year level, and nearly 20% under 1957.

The year's tax bill came to approximately $1 billion—somewhat higher than 1958. The increase resulted largely from 1958 amendments to the Railroad Retirement and Unemployment Insurance Acts which called for a rise of $120 million annually in railroad welfare fund contributions beginning last June 1.

Wage increases totaling 12 cents an hour, granted in May and November of 1958, contributed to a $200 million increase in 1959 operating expenses. Late in the year (Nov. 1) came an additional 3-cent cost-of-living wage hike, which boosted average hourly earnings of railroad employees to a new record of over $2.70. As a result of increased wage costs, the railroads' 1959 payroll is estimated at about $5 billion—more than in 1958 despite a

How Railroads Fared During 1959

	1959*	1958
Gross Operating Revenues	$9.9 billion	$9.6 billion
Taxes	$1 billion+	$957 million
Net Income	$590 million	$602 million
Capital Expenditures	$850 million	$738 million
Average No. of Employees	814,000	841,000
Payroll	$5 billion	$4.9 billion

*Preliminary Estimates

3% decline in employment to a year-long average of 814,000 employees.

Capital expenditures in 1959 amounted to about $850 million—a 15% increase over 1958, but 39% below 1957.

Brightest spot in the railroad picture last year was piggyback. TOFC carloadings ran 50% higher than in 1958, and 64% above 1957.

Passenger traffic volume declined for the eighth consecutive year. The drop in 1959 below the previous year was 4.7%. The passenger service deficit, however, was below the $610 million loss recorded in 1958. The 1959 deficit may have been close to $500 million.

Erie President Von Willer, who capsuled the industry's feelings about the old year, also sounded a keynote for the new: "We cannot sit idly by . . . and merely wait for the business to come our way. In today's highly competitive transportation market, we must aggressively go after it by giving better service and offering the kind of rate structure that will attract more tonnage to the rails. The great challenge we have before us is to build sales and cut costs."

Superintendents Choose '60 Convention Topics

Six topics, covering a wide range of railroad activities, have been chosen for study and discussion at the 1960 meeting of the American Association of Railroad Superintendents. The subjects:

- Effecting operating efficiency through automation and improved operating methods.
- Operating officers' responsibility for investigation of accidents and injuries.
- Building employee morale through leadership and effective communications.
- Improvement of interchange procedures and better cooperation between railroads.
- Dualization, consolidation or closing of small stations.
- What is needed to recapture the railroads' share of business to maintain the railroads as a strong agency of transportation?

The association will meet June 7-9 in St. Louis.

Watching Washington *with Walter Taft*

• **PROPOSED REPORT** on the transport study made in the Department of Commerce is now before Secretary of Commerce F. H. Mueller. It was submitted to him recently by the department's undersecretary for transportation, John J. Allen, Jr. Mr. Allen supervised the study which was made under the direction of Dr. Ernest W. Williams, professor of transportation at Columbia University.

IF APPROVED by the secretary, the report will go to President Eisenhower, who asked that the study be made. The President, as he put it, wanted a "comprehensive" inquiry "to identify emerging problems, redefine the appropriate federal role, and recommend any legislative or administrative actions needed to assure the balanced development of our transportation system."

STAFF REPORTS on various phases of the study were submitted to interested parties for comment. They revealed that recommendations calling for user charges on public transport factilities and changed rate-making rules were among those tentatively under consideration for inclusion in the final report.

• **GROSS CAPITAL EXPENDITURES** of Class I line-haul railroads in 1958 will total about $828,609,000, up 14.2% from 1957's $738,038,000. That's the latest indication at the ICC from reports of actual outlays for the year's first three quarters and estimates for its last three months.

EXPENDITURES FOR EQUIPMENT will be up 20.6%—$564,749,000 compared with $479,680,000. Road expenditures will be up 2.7%—from 1958's $258,358,000 to $263,860,000. The 1959 figures do not include fourth-quarter estimates from five roads which spent $9,900,000 for equipment and $1,700,000 for road facilities in 1958's fourth quarter.

THIS YEAR is getting under way with prospective first-quarter expenditures 9.4% above those of last year's first quarter. Like last year's fourth-quarter estimate, this is based on returns from 105 of the 110 Class I line-haul roads. They say their first-quarter outlays for road facilities will be up 28.3% while their expenditures for equipment will be up 1%.

• **RAILROADS ARE STILL LOSING GROUND** as carriers of the country's freight traffic. Latest estimates put their 1958 "share" of total intercity ton-miles at 46.3%, compared with 47.2% in 1957. Truckers, including private carriers, continued to gain. Their "share" rose to 20.5% of the total, from 18.5% in 1957.

AS TO PASSENGER TRAFFIC, the for-hire carriers, of course, handle a relatively small part of the total. Nearly 90% of this traffic, as measured by intercity passenger-miles, went by private automobile in 1958. Airlines got a bigger "share" than the railroads—3.9% compared with 3.2%.

AIRLINE FARES, though recently increased, have been holding the price line when compared with rail fares. The average revenue per passenger-mile of the regularly-scheduled domestic airlines in 1958 was only 6.6% above the 1942 average—5.63 cents compared with 5.28 cents. Meanwhile, the railroad average (excluding commutation service) was up 49½%—from 2 cents to 2.99 cents.

PARLOR AND SLEEPER SERVICES of the railroads yielded an average of 3.75 cents—up 56.2% from 1942's 2.4 cents. The Pullman Co.'s take averaged 1.549 cents. Thus, the 1958 traveler in first-class rail service paid a total of 5.299 cents, less than half a cent under the composite airline average. But the average yield from 1958's air-coach service was only 4.52 cents which was ¾ of a cent below the first-class rail average.

Aluminum LCL Containers Fold Up When They Are Not In Use

Experimental containers designed to cut LCL packaging and shipping costs went into service Jan. 1 on the CNR. The containers are being leased by Tracon Leasing Division of Thornley Engineering Co. Ltd. of Toronto directly to shippers for transport by Canadian National only (RA, Dec. 7, 1959, p. 40). The initial experiment covers areas between Montreal, Toronto and Hamilton in the east, and Winnipeg, Regina, Saskatoon, Edmonton, Calgary and Vancouver in the west. Service is provided also between eastern cities and Newfoundland. Two sizes of 330-lb capacity containers are available, 9 and 16½ cu ft respectively. Folding to one-fifth normal size for empty movement, the collapsed containers weigh only 55 and 62 pounds.

Diversification Plans Spurred

► **The Story at a Glance: Railroad diversification efforts ended 1959 on an up-beat:**

Illinois Central and Southern Pacific filed application with the ICC for authority to acquire the John I. Hay Co., a barge line with operations stretching over 2,500 miles of inland and coastal waterways.

Katy is reported ready to move on its plans for construction of a pipeline to carry liquified petroleum products between Texas and the upper Midwest.

IC, SP and Katy are swinging into '60 on a positive note, with plans under way to advance the cause of railroad diversification. IC and SP, two of the industry's most enthusiastic backers of expanding transportation services (RA, Aug. 31, 1959, p. 21, p. 25), want to buy one of the nation's ten largest barge lines. Katy is preparing to enter the pipeline transportation field, an area of operations already explored in depth by SP.

Object of the IC-SP joint venture is the Hay Co., which operates principally on the Mississippi and Illinois Rivers and the Gulf intracoastal waterway from Milwaukee, Chicago and Gary on the north to New Orleans, Houston and Brownsville on the south.

The railroads' application seeks only stock ownership, not operating control. The barge line would be continued as a separate corporation under the present operating management. Each railroad would own 50% of the new corporation. Purchase price of the company: $9,000,000.

Indications are that IC and SP can expect opposition from other barge line operators and strong interest in the proceedings from competitive railroads. Outright opposition from other railroads isn't in the cards at the moment. As one railroad officer summed it up, "I think we're all united on the question of diversification—and you can't chew on one side and not on the other."

The two petitioning railroads have had the acquisition under study for some months and are reported ready to move as fast as ICC procedures will permit. Indications now point to a "reasonably prompt hearing."

Katy has declined comment on the progress of its pipeline plans. But it hasn't denied reports that a $60,000,000-line from Texas to Minnesota and Wisconsin will be built. The proposal results from the road's continuing efforts to diversify into the pipeline field, after a joint Katy-NYC proposal was dropped. The two roads had planned a line from Texas to New York, along railroad right-of-way. The Texas-Midwest line, it's reported, will not follow railroad line.

RRs Upheld in Trucker Suit

The railroads' right to oppose merger of motor carriers has been upheld in Federal district court in Oregon. Judge Gus J. Solomon supported the railroad position in dismissing damage suits filed by trucking interests after the railroads fought a truck line merger before the ICC. The case involved the sale of Hunt Transfer Co. to Consolidated Freightways, a transaction approved by the ICC in December 1957.

Two stockholders of Hunt Transfer filed actions for damages against the railroads, claiming malicious interference with contractual rights. Each plaintiff claimed special general punitive damages totaling approximately $2 million. Five roads operating in Oregon—SP, UP, GN, NP, SP&S—were finally listed as defendants.

Hunt Transfer, Judge Solomon noted, was a motor common carrier operating over irregular routes in six western states. The company was certificated to

transport household goods and new and used store and office furniture and fixtures. It also held wide brokerage authority.

Significantly, Judge Solomon found that "for some time prior to 1956, Consolidated Freightways . . . embarked upon a program of further expansion in order to create a national single carrier system. As part of this program, Consolidated on April 4, 1956, entered into a contract with plaintiffs to purchase all of the Hunt stock."

(The Hunt case, railroad men comment, is just one of approximately 38 applications to buy or merge rights and property of carriers which CF has filed in the past five years.)

After the railroads unsuccessfully opposed the Hunt sale before the ICC, Hunt's former owners sued. Here's Judge Solomon's ruling:

"Plaintiffs in substance contend that the defendant railroads were not parties in interest to the acquisition proceedings because they were not competitors of Hunt and could not be affected by the proposed stock acquisition. Plaintiffs further contend that the defendants were motivated by a desire 'to thwart the expansion of Consolidated.' It appears . . . that although the railroads do not pack household goods and store and office furniture and fixtures, each of them transports a substantial volume of these same items in the territories served by both Consolidated and Hunt. Even though railroads do not pack these items, they are none-the-less competitors for the transportation of such traffic.

"We find that the proposed acquisition of Hunt by Consolidated, taken in the context of Consolidated's overall plans, posed a potential threat to the railroads' competitive situation, qualified the railroads as parties in interest and justified their participation in the hearings in connection with such acquisition. As parties in interest it was immaterial whether they were motivated by public spirit or self-interest. They were privileged to appear for the very purpose of which plaintiffs complained, 'to thwart the further expansion of Consolidated'."

Judge Solomon granted the railroads' motion for summary judgment.

If the district court opinion holds up, it may give the railroads a stronger position to maintain in future trucker merger cases. (A number of the CF acquisition applications are still pending —among them the so-called transcontinental cases, involving CF and six other motor carriers. The cases were argued before the ICC last October—but the Commission has now ordered reargument to be held Jan. 14. And reargument of such applications, railroad observers point out, is considered highly unusual.)

Railroading  After Hours with Jim Lyne

63-YEAR-OLD ORDER—E. F. Foulks, AVP of the Rock Island, has let me see an 1896 train order, lent to him by AGM Dew at Des Moines. There is no designation as either "19" or "31" but the order was signed by the conductor, so it was evidently handled as a "31." It reads: "Goodwin No 64 sixty four Eng 195 & Dayton No 69 sixty nine Eng 176 will meet at Garrison."

The dispatcher's initials are preceded on the printed form by the figure 12 and the conductor's signature by 13. The time is shown as 5:57—a.m. or p.m. not indicated. The order was addressed to Conductor Goodwin at Dysart, on the Cedar Rapids-Sioux Falls line. In those days there were two daily passenger trains each way on this line.

BRITAIN, AFRICA, BRAZIL—My friend Loyd Kiernan (formerly B&M, AAR, IC), now on an advisory mission in Brazil, has sent me a couple of significant clippings from the Railway Gazette (London)—which, incidentally, I see regularly. One of the pieces is a description of a Beyer-Garratt 2-ft-gage locomotive for the South African Railways. These engines develop 21,360-lb tractive effort at 85% b.p., and make it possible to do a pretty good job of railroading with this limited gage.

The other clipping showed a bunch of sandwich men—parading around through a mass of slow moving vehicles on a congested highway in Britain. They had been put on the job by the British Railways, and the signs they carried suggested the superior speed and comfort of railway service. A timely reminder to victims of highway congestion.

LK has been in Brazil for a year now, and has picked up a lot of skill with the language. He will be a handy man for visiting Americans to know, when the Pan American Railway Congress meets in Rio next October.

RR SECURITIES—SOME ARE EARNERS—The relative disfavor into which railroad securities have fallen, because of perennially poor earnings (compared to those of industries not suffering from discriminatory treatment by government), opens the door of opportunity to inquisitive investors. W. E. Russell, Sr., for many year's our company's chief counsel, is also an investment advisor and careful student of railroad performance. He tells me he has fared relatively better with his railroad investments over the past 20 years than with his purchase of industrial "blue chips."

Companies he's favored, which have well repaid his confidence, include Virginian, Seaboard, KCS, and Santa Fe.

This is cheering news, but not cheering enough. Because it does not indicate that the railroads' problem of securing adequate new capital is solved. That won't happen until practically all stocks of important railroads are selling well above par, and until new issues of common stock would be quickly snapped up by present holders. When a lot of bonds are selling at heavy discounts, as at present, railroads have got themselves a problem—since all the fixed plant that competing transportation needs (superhighways, jet runways, bigger barge locks) is furnished by the taxpayers.

FANS NOT ANTIQUARIANS—Jim Scribbins of Milwaukee takes me to task (quite properly, too), for inadvertently conveying the idea that railroad fans are primarily nostalgic—more interested in the past than in the present or future. Not so, says Jim S. A real fan likes everything about railroading—future and present, as well as past. "Most of them do a pretty good job of telling the general public the advantages of a GP-9 over a 4-6-0; and explaining such things as CTC, automatic yards, piggyback, etc."

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A VARIETY OF LOADING METHODS is possible with Convair swing-tail cargo aircraft. One idea (plane at extreme right), development of landing gear which would permit the plane to "kneel" and bring floor height down to standard truck bed height, has been abandoned. Most operators, Convair found, would prefer to provide integrated loading facilities designed to aircraft height rather than pay the extra cost of the kneeling gear.

Air Freight: New Aircraft

The aircraft industry is planning to crash the transport market with jet and turboprop cargo planes that may bring air freight to a fast maturity.

Until now, both railroads and motor carriers have been able to ignore the air freighter, with its high cost and small payload. But the picture may change considerably in little more than a year. At least five aircraft manufacturers are working on designs for planes which can span the continent in five to eight hours, with cargoes ranging from 65,000 to 100,000 lb.

The direct operating cost of such aircraft: 3 to 4 cents per ton-mile.

Airlines aren't even waiting to see flight test results. Orders are on the books. Manufacturers are talking in terms of early-1961 deliveries.

Here's what the industry plans:

- Boeing is working on a new turbofan-powered, swing-tail cargo plane —the 735—developed from the 707 jet passenger aircraft now in service. Capabilities of the 735: 600 mph with 100,000-lb payload over a range of 3,000-plus miles. Turbofan design, Boeing claims, "combines the best features of turbo-prop and turbojet engines, giving increased take-off performance for short-field operations and even better economy at high speed and long range."

- Convair (division of General Dynamics) is developing a swing-tail cargo version of its 635-mph Convair 600 jet transport. Powered by four turbojet engines, the cargo 600 is designed for a 2,935-mile range with a 70,000-lb payload.

- Canadair Limited (another General Dynamics division) has a separate entry—a swing-tail turboprop, the Canadair Forty Four. Canadair's aircraft will make 400 mph with a maximum 65,000-lb payload and a 3,500-mile range.

- Douglas has reached the confer-with-customers stage in development of a cargo jet (not billed as a version of the passenger DC-8, although it's possible such a plane may be developed). Like Boeing, Douglas now builds a turboprop freighter, but the plane (Douglas C-133) has had no commercial application.

- Lockheed's prop-jet "Hercules" is in military service in the U. S. and in Australia, and on order for the air force of Indonesia. The newest model is a 425-mph aircraft, with capacity for a 39-ton payload. Lockheed also offers a mechanized loading system which it claims will add as much as 40% airlift capacity to the plane. Idle ground time for loading, the company says, can be cut to 20 minutes (from as much as four hours) through use of a "train" of light-weight pallets carrying unitized cargo. Battery-powered electric winches haul the train into or out of the plane's fuselage. Automatic locking devices fasten the pallets in place for immediate take-off. Actual loading or unloading, Lockheed says, takes less than one minute.

In all cases, manufacturers are shooting for direct, field-to-field operating costs of about 3 to 4 cents a ton-mile—well within the range of motor carrier costs and close enough to rail costs to be worrisome.

Manufacturers are uniformly optimistic about their potential market, although air freight operations now account for only a fraction of 1% of total inter-city ton-miles.

The cargo liners will have certain obvious advantages: speed, relatively little loss and damage, loading and unloading convenience. (Swing-tail design of the Boeing, Convair and Canadair planes will permit loading of freight in containers almost as big as the plane's fuselage itself.)

Cargo handling is one major area, however, where the big planes may run into trouble. At least one airline estimates it won't be operating all-cargo jets for another four or five years. The hitch: Nobody yet has come up with

BOEING SWING-TAIL DESIGN has been developed from the company's 707 jet passenger transport. The cargo plane will be turbofan-powered, will be ready for delivery in 1961.

NEW AIR CARGO CENTER is expected to help increase traffic through Newark, N. J., airport from 41,000 tons in 1958 to 100,000 tons in 1965. The center—built by Port of New York Authority—cost $4,000,000, occupies 29 acres.

Will Boost Payloads, Cut Costs

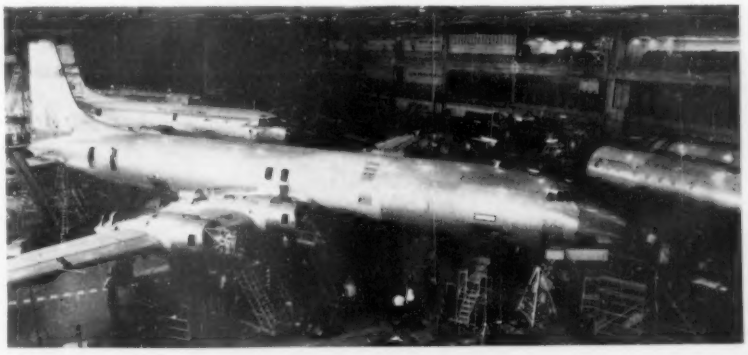
a wholly satisfactory mechanized loading procedure for the initial step in loading—placement of freight on pallets.

Another trouble spot, ironically, may lie with the federal government (the same government which is consistently generous, financially, in promoting and aiding the growth of commercial aviation). The difficulty centers around MATS—the Military Air Transport Service—which, so commercial lines contend, creates unfair competition with privately operated air service. Decision as to what role MATS will play is up to the President—and a number of observers are giving the commercial carriers an edge in the struggle.

A third drawback may be the high cost of new cargo planes—although cost didn't deter airlines from taking the plunge for turboprop and jet passenger aircraft. And it's almost certain Congress will get legislation to set up

(*Continued on following page*)

PALLETIZED CARGO is loaded into the Lockheed "Hercules" by an electric winch-roller system. Operator seated on the front of the low-boy trailer controls winch operation.



CANADAIR FORTY FOUR is already under construction in Montreal. Three U. S. airlines have ordered the aircraft. In addition, Canadair is building 12 for the Royal Canadian Air Force.

NEW PLANES PLANNED FOR AIR FREIGHT (*Continued from page 13*)

loan guarantees for cargo-liner purchase.

From all indications, the big decision in air freight won't be whether to launch a big push for traffic, but rather what equipment to use. Manufacturers of the turbojets hope the airlines will bypass the turboprop stage, go direct from piston engines to jets. Canadair, however, is banking on the cargo carriers walking before they run, building traffic with the smaller turboprops before they go for pure jets.

Here's the reasoning: Turboprops will cost about $3,500,000 apiece, compared with about $5,000,00 for the jets. Operating costs per ton-mile are reasonably competitive—but the break-even load factor is also competitive, about 30% for either type. And a 30% load is a 65,000-lb capacity plane, Canadair theorizes, will be easier to obtain than a 30% load in a 100,000-lb capacity craft.

Three freight lines have already signed up for Canadair's product: Seaboard & Western, Slick and Flying Tiger. Seventeen planes are on firm order, nine more on option.

Perhaps significantly, no orders have yet been placed for pure jet cargo aircraft. One maker reports, however, that "there is continuing interest within the military and the airlines."

Whichever design puts wings to the airline's bid for freight traffic, it's going to produce a new, glamorous—and apparently efficient—competitor to existing surface transportation. (Boeing notes that one 735 jet could carry as much across the continent in a week as a 40-car freight train. Convair says its 600 could make a flight from New York to Los Angeles, unload a full 35-ton cargo, pick up another and return to New York, all within an eight-hour day.)

Tonnage Expected to Quadruple

It's worth noting that past studies of air freight potential have produced results which looked unrealistic—but weren't. One projection, made public several years ago, saw air cargo accounting for 600,000,000 ton-miles in 1960, 800,000,000 ton-miles in 1965. Air carriers actually hit the 600,000,000-ton-mile mark last year.

Another more recent and more searching study was completed about two years ago (for Boeing) by Stanley H. Brewer, professor of transportation at the University of Washington. His conclusions: Common carrier cargo planes will produce 1,100,000,000 ton-miles in 1961, 2,700,000,000 ton-miles in 1965. The study tabbed motor carriers and rail freight forwarders as "the first large areas of penetration by air freight."

A third study forecasts a thousand new cargo aircraft; 30 to 40 billion air freight ton-miles, and cargo revenues of $4,000,000,000 by 1975.

Air freight tonnage at New York alone has doubled in the past decade; is expected, in the next, to quadruple its present volume.

Perhaps coincidentally, railroads are now involved financially with two expanding air cargo lines. New York Central has just picked up $5,000,000 in 5½% convertible notes from Flying Tiger. (NYC President Alfred E. Perlman says he views air freight as complementary to rail service rather than directly competitive.)

Chesapeake & Ohio, since 1956, has had an interest in Slick. Both transactions include the right to convert notes (NYC) and debentures (C&O) into common stock.

Most transport experts don't look for air cargo to be a serious competitive threat—from a volume standpoint—in the foreseeable future. Air freight gains, they contend, will be far more impressive expressed in percentages than in ton-miles. But they do see a threatened erosion of high-rated commodities to air shipment, once lower-operating-cost aircraft are available.

Then again, one observer pointed out, it wasn't so many years ago that the explosive growth of the trucking industry didn't appear in "the foreseeable future." On that basis, air freight can't be summarily dismissed as a novel but impractical idea.

Air Freight Can Thrive on . . . '600-MPH THINKING'

"Don't be dragged kicking and screaming into the air cargo future," R. L. Turner, traffic vice president of the Air Transport Association of America, told industrial traffic men at last month's dedication of the new air cargo center at Newark, N. J.

Here, Mr. Turner said, are some examples of what we like to call "600-mile-an-hour thinking."

"International Business Machines Corporation now ships its units by air—wrapped only in Manila paper and bolted to skids and tucked away in the airplane. No paying for shipping a pile of lumber in the form of a crate, nor the labor costs of crating, nor the labor costs of uncrating, nor the costs of repairing and putting such complex apparatus back into commission after a long journey.

"The big [passenger] jets are built on the West Coast; most of the engines are built in Hartford, on the East Coast. All the engines are being flown out in regular scheduled commercial services. Why, when the cost of transportation alone is higher? Because by air we leave behind a container weighing well over a ton and use instead a polyethylene bag weighing a few pounds. By surface, the container would have to be returned at further additional cost. Net saving on the first 100 jets to come out of Seattle is estimated to be three-quarters of a million dollars."

Another example: Raytheon Co. has gone to complete air distribution from Westwood, Mass., for its 12 product lines. It expects to give better service to its customers—and at the same time save $350,000 a year (less some communications costs) in operating charges, including a cut of 40% in inventories of $2,000,000 or more formerly maintained in warehouses at Chicago, Atlanta, Los Angeles, and elimination of the warehouses themselves. A typical order for 5,000 items can be received, Raytheon says, in 17 minutes, assembled in 90, delivered to Boston's Logan airport in 45, and received by the customer in one day—against up to 13, and an average of seven, by surface transport.

CURRENT RAILROAD QUESTIONS

What Are Big RR Questions?

Our lead question this week, appropriately enough for the first column to appear in a new year, is a question we're asking of you, our readers.

What are the questions you're most interested in?

Would you like to see more theoretical questions, like those on the advantages of staggered rail joints or 24-hour clocks, or more specific questions like those on locating hand brakes at ground level or the one below on substituting wrist watches for pocket watches?

Send your questions in, and your comments on, or answers to, the questions others have sent in. With your help, we can keep this column open as a place to put on the record the many things which railroaders are discussing these days.

For example: a New York Central man in Kankakee, Illinois writes in to ask:

"Is there any shock or impact recorded when an engineer, having from 25 to 40 cars in a cut, makes a hard stop that is just like cracking a whip, if the farthest car from the engine has an impact recorder in it?

"We handle many cars of groceries here at Kankakee and there are many impact recorders placed in these cars. We are wondering just how many impacts that we are blamed for are actually recorded by hard stops."

For another example: our column of Dec. 14 carried a letter from a man on the C&O wondering whether, in view of the ICC approval of new tank cars without running boards, the boards are needed on other types of cars.

These questions, and the others like them that we have published over the years, raise points that should be discussed as widely as possible.

If, as seems entirely possible, some of the shocks recorded by impact registers occur because of rough handling over the road, let's talk about the problem to see if some way can't be found to pinpoint the responsibility.

And on the question of running boards, although we recognize that safety appliance rules under ICC jurisdiction can be changed only by the Commission, an informed body of railroad opinion could be a great help to the Commissioners in making up their minds.

So at the risk of redundancy, "What are the questions in 1960?"

A forum for railroaders who want to explore questions of importance to their industry, this column welcomes both questions and answers from readers at all levels of responsibility in the industry and associated fields. We'll pay $10 to any reader submitting a question that forms the basis for a column discussion. Address correspondence to Question and Answer Editor, Railway Age, 30 Church St., New York 7, N.Y.

Why Not Standard Railroad Wrist Watches?

"The advantage of a wrist watch is its convenience.

"A railroad pocket watch movement is large enough to assure consistent accuracy in performance. Such performance is not, generally, obtainable from a wrist watch movement.

"A railroad pocket watch dial and hands are of sufficient size and clarity to permit correct reading under practically all lighting conditions.

"A railroad pocket watch is of such rugged construction that it will withstand the more rigorous occupational activities to which a watch is subjected in railroad service.

"A railroad watch carried in a pocket is protected against weather conditions. A water-resistant wrist watch is subject to condensation; under certain conditions moisture will gather on the inside of the crystal, thus obscuring portions of the dial.

"A wrist watch comparable in construction and quality will cost considerably more than a railroad pocket watch.

"The upkeep of a wrist watch is and always has been greater, possibly twice as much, because of its size and also because it requires more servicing.

"The comments of Trainmaster Thomas M. Taylor, Jr., in the October 19 issue should be clarified in certain technical respects.

"A balance staff is made of hardened steel and it is neither flexible nor adjustable. A balance staff is either riveted to the balance wheel cross arm, or it is friction fitted to a hub in the balance wheel cross arm.

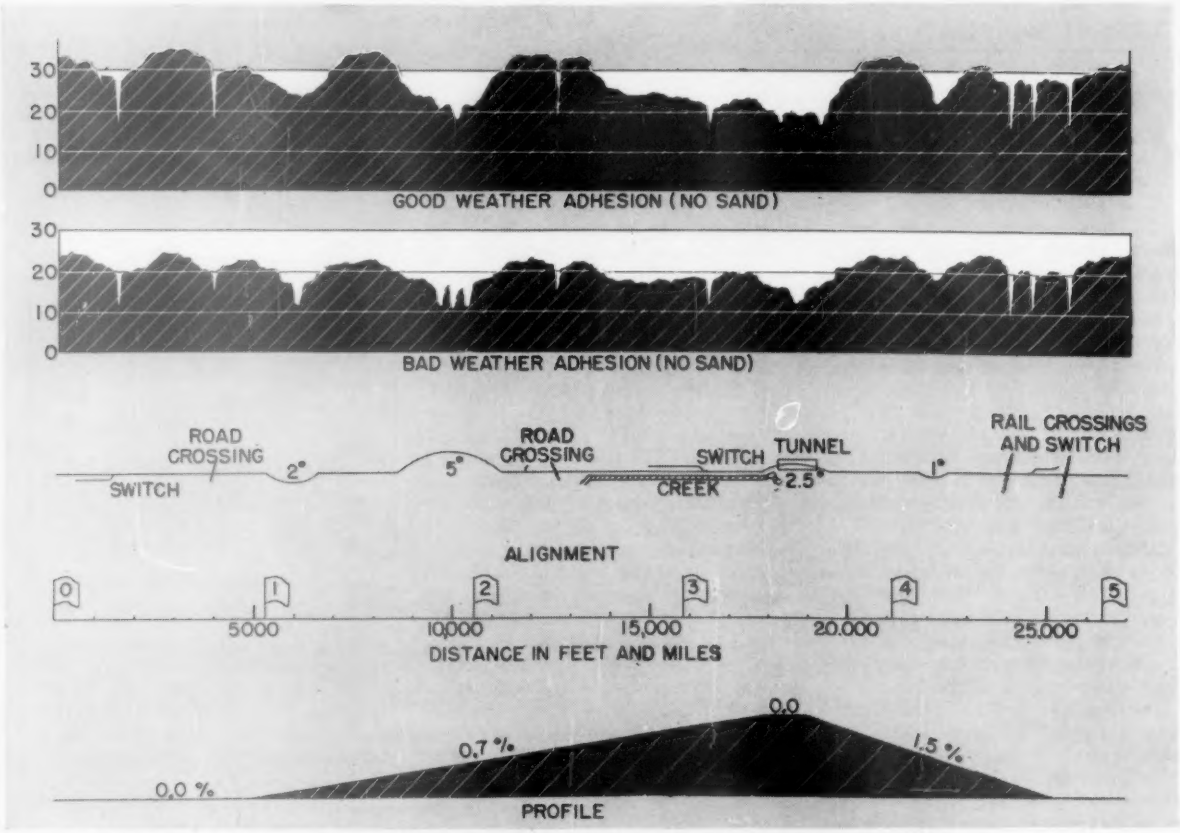
"Trainmaster Taylor may possibly have reference to a patented flexible balance wheel cross arm which is used in some imported wrist watches. This type of balance wheel might prevent damage from shock or fall, but would not bring such a wrist watch close to the precision of a pocket railroad watch.

"The above is based on my experience of 45 years repairing railroad and commercial watches."—*Clarence D. Fabrin, manager of time service, Southern Pacific.*

24-HOUR CLOCKS?

"In my opinion the use of 24-hour clocks for operations has its advantages and disadvantages. No doubt, changing over from using the present time to the 24-hour time would cause considerable confusion, as all employees are familiar with the present time. Of course, the new system would have to be made familiar before it would be successful."—*D. C. Ferguson, assistant vice president, Southern.*

"I am in favor of the use of 24-hour clocks for railroad operation. While initially there may be some minor confusion getting people accustomed to the change, after it has been in effect, I think, it is much simpler and is desirable."—*R. E. Johnson, vice president—operation, Chicago, Rock Island & Pacific.*



PROFILE CHART does not represent any existing railroad. It shows how available adhesion varies over track sections that represent most conditions encountered in railroading. Adhesion values, in per cent, are for zero train speed.

Let's Use Available Adhesion

► **The Story at a Glance: Railroads have long had a stake in eliminating, or at least reducing, locomotive wheel slip. Slipping drivers rob locomotives of power and artificially limit the tonnage of trains.**

Earlier studies of wheel slip have produced various theories of its nature and causes (RA, Nov. 21, 1955, p. 34, and Jan. 7, 1957 p. 32). Now, in this report written especially for Railway Age, General Electric's John C. Aydelott advances the "slippery spot" concept—and suggests that modern slip detectors, plus available correction means, can produce high adhesion continually at both high and low speeds.

Adhesion, to railroad men, is the ability of a locomotive to pull a train without slipping. Operating and mechanical officers have sought constantly to improve performance in this respect and thereby increase operating efficiency.

Recent studies of the problem have produced new evidence about slippage. These studies suggest that slip occurs as a result of spot conditions on rail heads; that such spots are usually quite short in length; and that between them there are relatively long stretches where adhesion is very good.

The concept is illustrated in the accompanying profile chart. The profile shown represents no specific stretch of track but rather a five-mile composite of many typical sections of right-of-way. The bottom portions of the chart show profile, scale of miles, alinement and other significant features.

The two top portions show adhesion in good and bad weather. The term "bad weather" is used to designate conditions when adhesion is poorest, as when it begins to rain after a long dry period.

Starting at the left in the two adhesion profiles, the first slippery spot occurs at a switch where there is oil on the rails. A short distance further along, at the grade crossing, highway vehicles have dropped oil on the track or smeared macadam tars or oils on the rails. At the one-mile post, a 0.7% grade begins, then a 2-deg. and a 5-deg. curve.

It is well known that adhesion is low at curves. Moreover, slippery spots occur at wide-gage locations in curves because, in bad weather, a mixture of dirt and oxidized oil accumulates along the edge of the rail head. A small amount of moisture, even dew, can spread this mixture and produce a thin oil film across the rail head at such points.

At the 12,000-ft mark in the profile is another highway crossing; and then, for almost a mile, a creek parallels the track, causing lower adhesion levels over this distance. There is another switch, then level track through a 1,000-ft tunnel. Constant presence of moisture at tunnel entrance and exit creates slippery spots at those points. Near the

center of the tunnel, at a wide-gage place, still another slippery spot occurs when humidity is high enough to produce condensation.

Beyond the tunnel exit, there is a 1-deg curve and, finally, still more slippery spots where the composite track section crosses other railroads and switches.

It is important to note that the top line in the "bad weather" profile is substantially lower throughout than comparable points on the "good weather" profile; and that dips in the good weather adhesion profile, while sharp, are still substantially higher at their low point than comparable dips in the "bad weather" profile.

These two profiles, for all they suggest, are by no means the whole story. Other points can be made on the basis of observations used in preparing the profile lines. For example, certain wheel slips barely get started and are self-correcting. The slippery spot concept explains this, since it contemplates that many such spots are indeed very short.

Other Factors Involved

There are exceptions, of course. Evidence from these studies indicates some slips, once started and not corrected, will continue for several miles. This is especially true at high locomotive speed. This occurs, when the spot concept would seem to indicate otherwise, because wheel slip is a complicated phenomenon. Factors other than adhesion must be considered.

One suggested explanation of continuing slip at high speed is that locomotive wheels may pick up an oil film from slippery spots on the rail. Also, some locomotive wheels carry an accumulation of journal bearing lubricant that has run out to the wheel rim. In such cases, the locomotive might be said to be carrying its own slippery spot along with it.

The adhesion-speed chart provides added information on the wheel slip puzzle. Speed, as such, tends to lower adhesion from whatever the standstill value may be. Since standstill value will vary, as shown in the first chart, this speed chart should really consist of a whole family of curves—each curve beginning with one of the different standstill values and falling away as locomotive speed increases.

Plotting these added points would produce a shotgun pattern of scattered points showing, in effect, substantial variation in adhesion at each speed.

Still another element of the slip phenomenon is introduced with the adhesion-slip velocity chart. The two sample curves on this chart illustrate the fact that sliding friction, or adhesion, is lower than static or rolling friction. Similar curves might start from whatever value of rolling adhesion (slip velocity) exists at any time. It should be noted that adhesion does not drop instantly when slipping begins. Instead, it follows a well-defined curve and reaches lowest value at high-slip velocities.

Sustained slipping of long duration usually occurs in damp weather and at high speed. To determine adhesion values under such conditions, the "bad weather" values in the adhesion-speed chart should be scaled down in accordance with the curves in the adhesion-slip velocity chart.

When Slip Velocity Increases

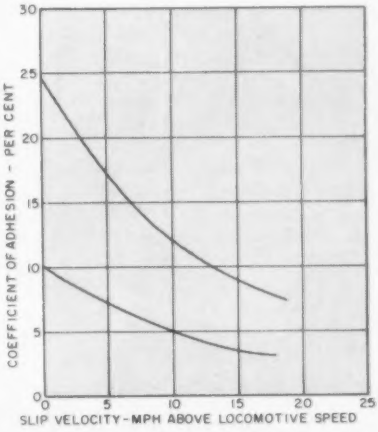
Assume conditions whereby slipping begins. If the slipping axle accelerates rapidly, the speed of the wheel rim soon reaches a much higher mph value than actual locomotive speed. Slip velocity becomes very large, and adhesion may reach unexpectedly low value. Calculations based on engine horsepower and generator and motor characteristics indicate adhesions as low as 1 to 2% have prevailed over miles of track during sustained high-speed slipping.

This condition, in the light of average adhesion indicated in the "good weather-bad weather" chart, prompts the observation that the adhesion is there. The question is, how can it be utilized?

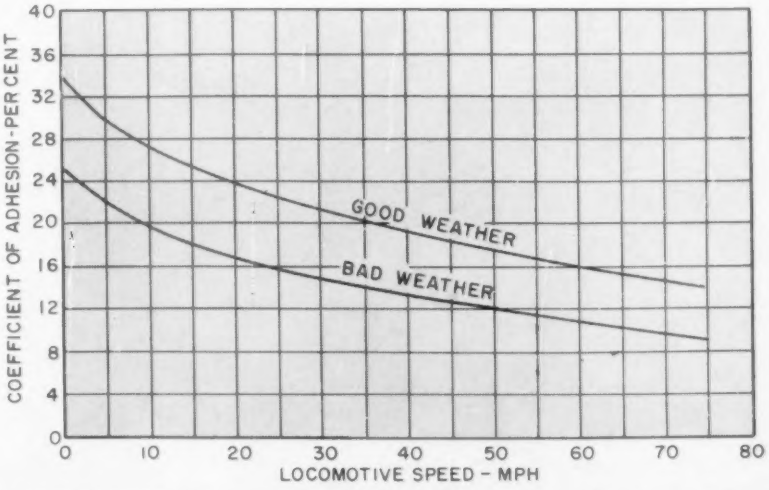
It is not suggested that the full value of average adhesion could be used to pull trains. But to use the available adhesion to the utmost after crossing a slippery spot, the locomotive must get back as promptly as possible to the business of pulling the train. Several important things which will contribute to prompt recovery are:

- Locomotive design should be such as to minimize the rate of acceleration of the slipping axle, i.e., favorable traction motor connections should be used.
- The slip should be detected and corrected as promptly as possible to minimize the top speed of the slipping axle.
- In correcting the slip, smooth power plant operation should not be upset.
- The slip-correcting means used should have a maximum effect on the slipping axle and a minimum effect on the axles not slipping.
- As soon as all wheels are again in rolling contact with the rail, the corrective means should be cut off. Violent reapplication of power at this point may start a new slip, thus leading to a

(Continued on page 35)



ADHESION-SLIP VELOCITY chart shows that a slipping wheel produces lower adhesion values than a rolling one.



ADHESION-SPEED curves show that speed lowers the adhesion coefficient. A whole family of curves should be shown, one for each standstill adhesion value.

B&O Has New Method for Ripping

The Baltimore & Ohio knew that installation of CTC at several locations on its double track would take miles of second main track out of service. But, by taking the track up the road would not only save on its maintenance but would also obtain a large inventory of track materials which could be used elsewhere.

The problem was: How to take it up at the least cost? The B&O's answer was: Rip it up! And that's just what was done.

Best Rail and Ties Are Retained

In approaching this problem, the B&O first inspected both main tracks to determine where portions of the track should be removed. Track increments having the best rail and tie condition, of course, were scheduled to remain.

Then there was the question of where to locate the necessary passing tracks and hotbox set-out tracks. The operating department settled this question and the ends of these tracks were fixed in the field. At the time of inspection, the matter of relocating portions of the remaining track was also looked into and plans were made with the view of improving its location with respect to its proximity to the edge of embankments or to the bluffs.

Ways to shorten the time and reduce the labor of taking up portions of track between passing tracks were then considered. It was decided that, by contriving a device to separate the rails from the ties, the time-consuming operation of pulling track spikes could be eliminated.

A rugged device, called a "ripper," was built for this purpose. It was designed to be pulled by cables attached to a locomotive. It consists of a heavy structural-steel frame and large-diameter round-steel bars extending outward from each side at the rear of the frame. The frame, narrow enough to fit between the running rails, is open top and bottom and has a short nose at its front end to which towing cables are fastened.

Preparatory to operating the ripper, two men with power wrenches removed two of the four bolts from each joint. They also loosened the other two for expediting complete removal by hand later on. At the same time, other trackmen removed all rail anchors from the rails. Also, turnouts were installed in advance so that the necessary passing tracks could be quickly made by merely throwing the track and connecting the ends.

The ripper is used with a work train comprised of a caboose, a locomotive, a work car on which the ripper is transported, and a locomotive crane. The ripper is placed on the track to be removed by the crane, with the frame resting between the rails. Towing cables are attached to the crane. Spikes are then pulled for a distance of one-half rail length from each running rail. A pair of joint bars is removed from each rail and the rails are raised up high enough for the side extensions of the ripper to be pulled beneath them.

The work train then moves ahead at a speed of about 3 mph. The lower flanges of the frame act like sled runners and hold the ties down while the side extensions pull the spikes by raising the rails.

It might be expected that this operation would result in spikes suddenly letting go and flying in every direction through the air. But this occurs only in rare instances. About 60% of the spikes

RIPPER, towed by a work train, holds down the crossties while pulling the rails loose from their fastenings

Out Surplus Track

are pulled out by the ripper. The other spikes, having been driven into ties renewed within the last few years, resist pulling. This causes the ties to move along and bunch until the spikes let go or are bent aside to allow the rails to pass them.

Like Aftermath of a Storm

After passage of the ripper, the track looks at first glance like the aftermath of a severe storm. The rails, though undamaged, rest on the ties in a helter-skelter alinement. Here and there, one of the two remaining bolts of a joint has broken so that the ends of the adjacent rails do not meet. The ties are torn out of their beds and are bunched in places, making the track look as though it had suffered a washout. A few tie plates have been swung 180 deg out of position.

However, it is all for the good. It is now relatively easy for trackmen to remove the remaining two bolts from the joints. Also, they pull any spikes not already pulled, and they pile the bars, bolts, anchors, plates and spikes for magnet loading. A foreman and two trackmen classify and mark the rails for loading, after which a work train follows and loads the rails and bars. A second pass of the work train loads the other track materials.

Also, with the ties now up where they can be inspected, those not suitable for reuse are piled and either burned or given to neighboring farmers. Usable ties are picked up by a Speed Swing Loader with a two-prong fork and piled on the shoulder of the embankment. Later, these are loaded into cars by a crane and shipped to other points.

Since the ballast is of good quality, being either slag or crushed hard limestone, the road recovers this for use elsewhere. It is first cleaned, then loaded into gondolas by an Athey Ballast Reclaimer.

The roadbed is then smoothed by a Caterpillar motor-grader for providing a roadway for track maintenance machines and trucks.

Cost figures for this method of taking up track are not yet available, the B&O says.

However, it knows that it is saving money and that the work of removing track is being speeded up.

▲ **ALL MATERIALS,** including the ballast, are salvaged and the roadbed is smoothed to provide a roadway for maintenance trucks.

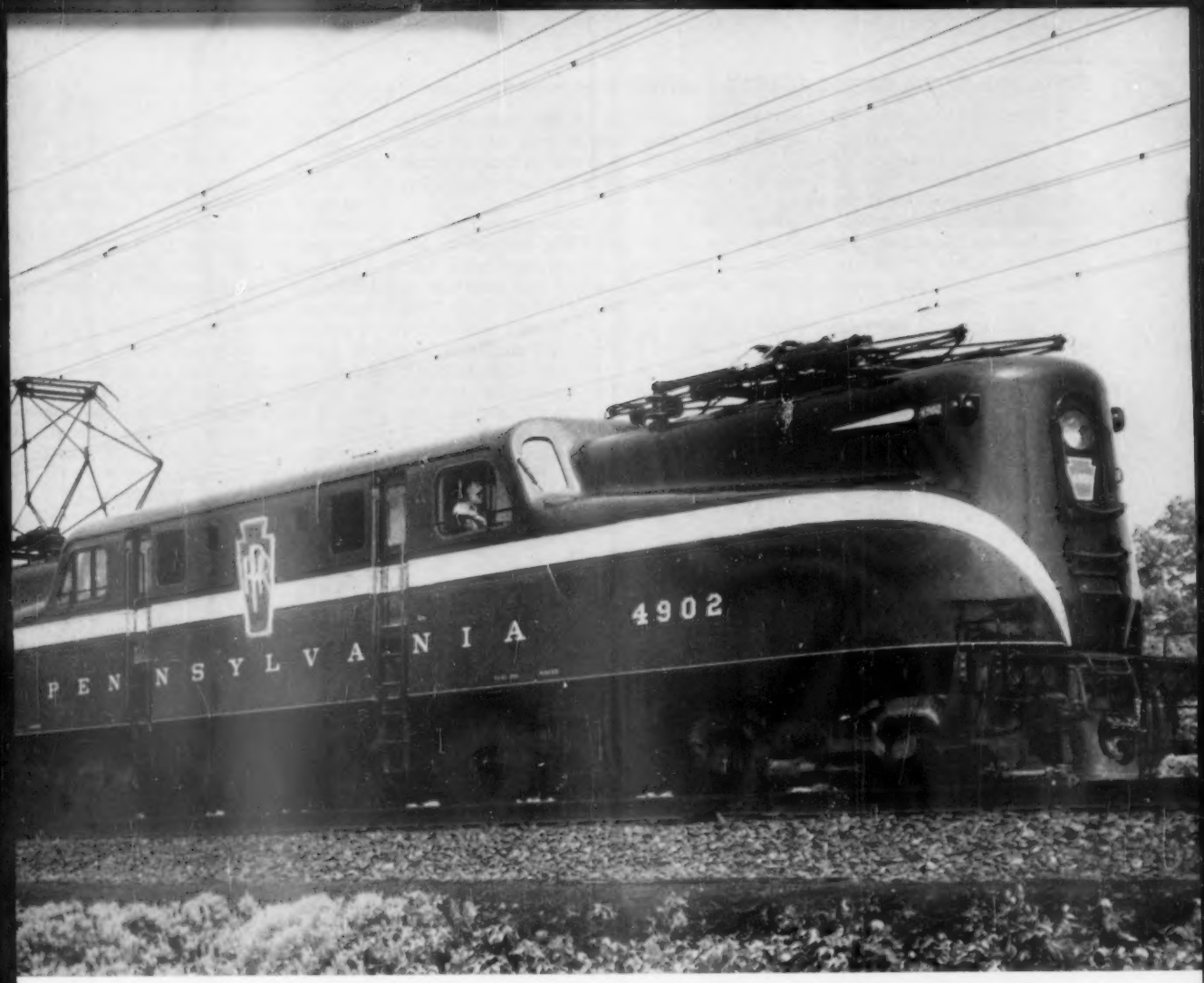
AFTER THE RIPPER has been used, trackmen remove the bars and other track materials, piling them for magnet loading ▶

1960 The "Broadway" starts a new decade still the indisputable leader of PRR's passenger fleet.

PRR's Top Train Offers Luxury

1902 Only four cars long instead of the modern 16, the first "Broadway" was also a luxury train.

1934 The outward appearance changed in the 30's, with lightweight cars and streamlined engines.



Service That Grosses $5 Million

"We're proud of the 'Broadway'," says Pennsylvania Railroad's General Manager of Passenger Sales Earl R. Comer.

"We consider the train a valuable asset. Anyone who uses it feels that they've had a good trip and that they've received the service to which they are entitled. We intend to keep the 'Broadway' a luxury train just as long as it is possible."

How long will the demand for all-room, first-class luxury service between New York, Chicago and selected intermediate cities continue? The Pennsy's "Broadway," currently the only train providing this service, is likely to be around for some years to come, Mr. Comer thinks, but he is quick to add that the train's survival is, of course, contingent on public support.

The "Broadway Limited" today is just what it has always been—an all-Pullman, all-room, first-class train—but in the present competitive position of the Eastern railroads, 58 years of success is no guarantee of success in the future. The only passenger services with much hope of survival are those that satisfy a real customer demand.

Does the "Broadway" do this? Figures indicate that it does. Passenger and head-end revenues from the train in 1958 were $4,397,580. The estimated gross for 1959 (actual figures are not yet available) is close to $5,000,000.

The "Broadway Limited" has been the leader of the Pennsylvania's passenger fleet since it began operating (as the "Pennsylvania Special") on June 15, 1902. The road has consistently attempted to keep the train's standards as high as business economic conditions would permit. On top of this, the train got a little extra attention in the summer and fall of 1958 when it seemed important to assure customers that the "Broadway" would remain an all-room train.

Beginning in the late summer of 1958, volume increased some 10%-15%. It has fluctuated since, with the expected changes in seasonal demands

(*Continued on following page*)

PRR's TOP TRAIN OFFERS LUXURY SERVICE (*Continued from page 21*)

and with business factors (such as the steel strike, which is still being felt in the first-class passenger market).

On the "Broadway," the peak season is in the winter—December, January, February or March—when business travel between New York, Philadelphia and Chicago is at its highest. In these months, the train may handle 200 or more passengers on every trip.

In the summer, the "Broadway's" patronage changes: Family travel accounts for a larger share than commercial travel, and the number of passengers per trip may be as low as 115-125.

"We try to accommodate everyone with the kind of accommodation he wants," Mr. Comer says, "so we add cars according to the demand." The train may run as long as 19 cars; beyond this its growth is limited by the platform length at Pennsylvania Station, New York.

Who are the customers and what is the competition? The customers, Mr. Comer says, are travelers who want convenience, comfort and luxury in an overnight service between New York and Chicago. Cost is not a particularly important factor in this market as long as value is given for value received. And the speed of air travel on this run for this market does not give the airlines an overwhelming advantage.

Traffic is well balanced eastbound and westbound, with 60% to 65% of the passengers through business between the two terminals.

To keep "Broadway" sales and service up to the road's high standards, both the Pennsy's passenger people and the Pullman staff have a continuing training program stressing for everyone involved that quality is the "Broadway's" chief asset. Even the locomotive crews are specially alerted to handle the train smoothly.

The emphasis on training has paid off. As Mr. Comer puts it, "It takes a lot of individual ability to handle people as well as they're handled on that train. I rarely get a complaint about the 'Broadway.' Waiters, kitchen crews, porters, everyone—frankly, I don't think there is an employee on the train that isn't proud of the 'Broadway.'"

First-Class Travel: The Customer's View

No doubt there are railroad men, in passenger sales as well as in other departments, who would dispute the Pennsylvania's contention that there is a market for the kind of service the "Broadway" provides. The letter reproduced here came in entirely independently of our "Broadway" story—addressed to the publisher of Railway Age. It was prompted by the "As the Publisher Sees It" column in the Nov. 30 Railway Age, and is pretty good evidence that passenger markets do exist.

Dear Mr. Lewis:

I travel a great deal and use almost all carriers except buses. Probably like most, the great weight of my recent travels has been by air . . . often to the sacrifice of the railroads. Yet, I find myself increasingly returning to (or in some cases *trying* to return to) the railroads. To give you three specific examples where, *in most cases*, I have all but abandoned air travel for the railroads:

1. New York to Washington. Portal to portal, time is almost identical, yet you avoid lining up and waits.

2. New York-Chicago or New York-Detroit (and vice versa). I find it easier to arrive early in the morning *unless* I want a fairly full day in one place or the other and have to make an evening dinner engagement—in which case I have to fly.

3. New York-Florida (with children). Again, this is an overnighter arriving in North Florida in the early morning . . . South Florida by noon.

In addition, whenever I have a choice, over the past three years I have found myself more and more training rather than flying in the period November 15 through March 15, not because of safety, but simply because of less inconvenience and more sureness of schedule during these bad weather months. Strangely, I find an increasing number of business associates who are doing the same thing.

Now all of this, I am sure, is no news to you. But I am also sure that you'd agree that the ever diminishing interest by railroads (I'm generalizing) in passenger service (I know it loses money on its present basis) makes it harder and harder to compound any natural swing-back in certain areas of people like myself. There continue to be numerous single examples of good service and innovations (like the hostess on the "Century," etc.), but too often I somehow feel the sell, the glamour, if you will, the little extras *seem* to be lacking, or perhaps not coordinated.

I have enough personal friends in various aspects of railroading so that I am forced to believe them when they say that, generally, railroads aren't sufficiently modern sales or marketing minded . . .

Now, while of course everybody knows how to run a railroad, I thought you would be interested in a third attachment, which is an excerpt of a letter written by my wife to someone in the family January 15, 1936. As a youngster, she describes the Florida Special "recreation car." Question: Has a modern version of a recreation car been considered? If too much of a gamble for some of the major lines . . . are there enterprising people who could be interested in going in it on their own, hitching them onto the train, and charging a good extra tariff or direct charge for admission?

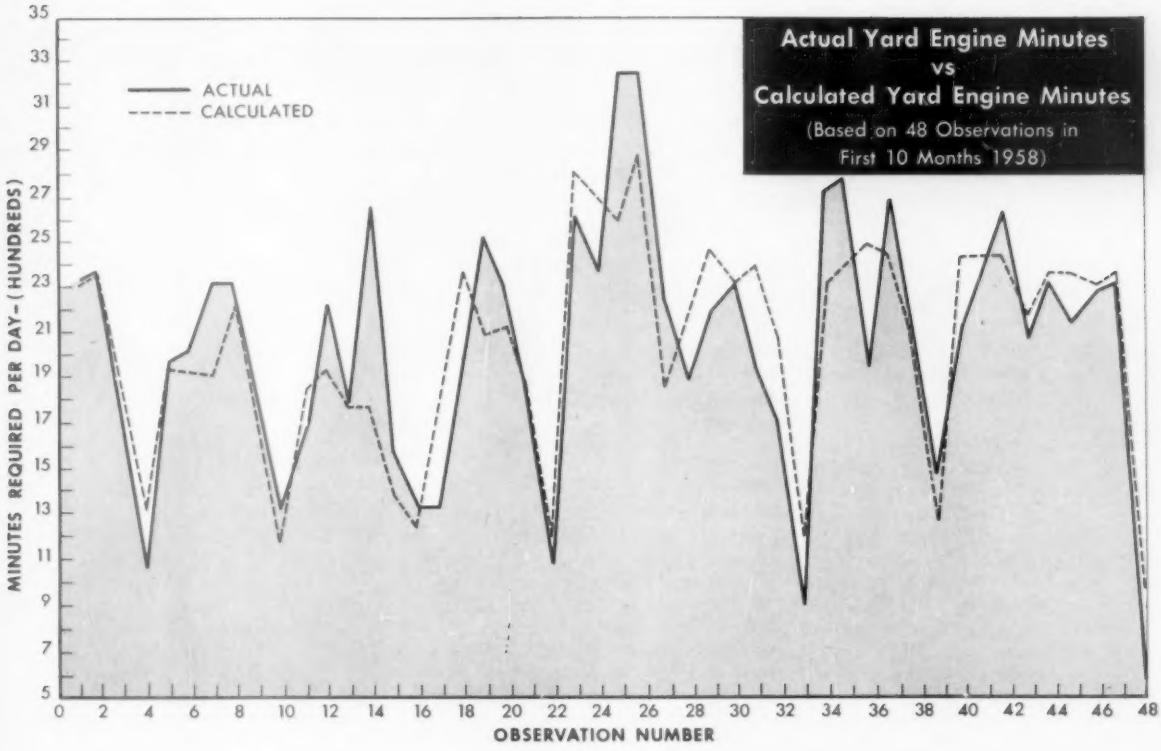
Or, somewhat along the same lines, if the current psychology of our country is that even when they buy a compact car or a Ford they don't buy it loaded to the teeth, can the trains take even greater advantage of that? In air travel, most *first-class* seats not only are charged for at a high premium rate . . . but are often quite difficult to get at all. Public relations ideas, like American's "Admirals Clubs" are popular, talked about and sought after. There used to be a rather pleasant sense of prestige satisfaction in "riding the 'Century'."

Sincerely,

John W. Hartman
President, "Sales Management" and
Bill Brothers Publications

Enclosure

"Yesterday when the train stopped in Washington Daddy and I got out and took a walk up and down the station platform and met a friend of ours who was putting a friend of his on our train. So we had a threesome, this man taking us in to dinner and afterwards we all went back into the recreation car and played "Keno," a gambling game, but I didn't win any money. There's a three-piece Hawaiian orchestra on board just to entertain the guests and they played and sang most of yesterday afternoon and evening. Also, the recreation car boasts of two hostesses who dash about getting up bridge games and amusing the guests in general."



How Cars In Multiple Cut Costs

By WALTER B. WRIGHT*

[There's two-pronged danger in current high costs of terminal handling of carload freight: (1) With ICC using its cost calculations as a "floor" for competitive rates, high costs sharply curtail the tonnage for which railroads are allowed to compete. (2) Terminal costs as much as $70 a car, or even more, are a ruinous handicap to profitable railroading.

Cost Analyst Wright, in this article, suggests a hopeful approach to this problem—pointing out the probability that handling cars in multiples, instead of singly, cuts terminal costs—possibly 25% or more.

The single carload is a questionable unit of railroad cost. Over-emphasizing the single carload in rate-making may be open to similar question.—Editor]

The Interstate Commerce Commission's increased insistence on presentation of cost information in connection with requests for rate changes, makes it desirable for us to obtain better knowledge of terminal costs. This is true whether a railroad uses its own cost data, or seeks to adjust the I.C.C. Cost Finding Section's Territorial Cost Scales, in accordance with instructions issued with those scales.

For example, take a boxcar—average load 27.3 tons (as per ICC Cost Finding Section Statement) moving 250 miles (approximate average haul of manufactured articles as per the ICC 1% Waybill Sample). The out-of-pocket costs for Eastern District for this movement would be computed as follows:

	Cost per cwt as per scales	Cost per car (546 cwt)	% of Total Cost
Terminal Cost	12.769¢	$ 69.72	52.6%
Line Haul in Avg. Wt. trains .04598¢ per mile for 250 miles	11.495	62.76	47.4
Out-of-Pocket Line Haul & Term. Cost	24.264¢	$132.48	100.0%

Note that terminal cost is slightly more than 50% of the total cost. This is usually the case with average traffic. For short-haul traffic the terminal costs are more than half of line-haul plus terminal costs. Conversely, for long-haul traffic, terminal costs drop below 50% of the combined total.

For this car, ICC scales will show yard switching costs at $17.39 per car at origin, and another $17.39 at termination, or $34.78 to originate and terminate the car. This $34.78 yard switching cost is approximately half of the total terminal cost of $69.72. Hence, it is evident that terminal costs are a large part of the entire cost, and that substantial reduction in terminal costs will effect noteworthy reductions in total cost.

The $17.39 cost for switching at origin or destination is based on 28.0 minutes for a boxcar. The ICC scales show $19.32 cost for switching of other types of cars at origin or destination, being the cost at the rate of 31.1 minutes per car. These minutes are "average minutes," that is, a composite of switches of both single cars and multiple cars. It is obvious that single car switches must consume greater than this average switching time, and that multiple car switches must consume less than average switching time (per car). In the setting of rates where cost is a major consideration, the lower-than-average cost (per car) of multiple car switching could be a matter of major importance.

(*Continued on following page*)

*Mr. Wright is executive consultant, rate research, for the C&O. Previously, he was an examiner, Railroad division, R.F.C.

Calculated Decrease in Yard Engine-Minutes per Car, as Size of Cut is Increased

Number of Cars per Cut	Eng. Min. per Cut 3.16646 first car plus .28960 for others	Avg. Eng. Min. per car	% Avg. Eng. Min. per car is of single Car Switch	% Avg. Eng. Min. per car is of Avg. cut
1	3.16646	3.1665	100.00%	247.73%
2	3.45606	1.7280	54.57	135.19
3	3.74566	1.2485	39.43	97.68
4	4.03526	1.0088	31.86	78.92
5	4.32486	.8650	27.32	67.67
6	4.61446	.7691	24.29	60.17
7	4.90406	.7006	22.13	54.81
8	5.19366	.6492	20.50	50.79
9	5.48326	.6092	19.24	47.66
10	5.77286	.5773	18.23	45.16
11	6.06246	.5511	17.50	43.12
12	6.35206	.5293	16.72	41.41
13	6.64166	.5109	16.13	39.97
14	6.93126	.4951	15.63	38.73
15	7.22086	.4814	15.20	37.66
16	7.51046	.4694	14.82	36.72
17	7.80006	.4588	14.49	35.89
18	8.08966	.4494	14.19	35.16
19	8.37926	.4410	13.93	34.50
20	8.66886	.4334	13.69	33.91
21	8.95846	.4266	13.47	33.37
22	9.24806	.4204	13.28	32.89
23	9.53766	.4147	13.10	32.44
24	9.82726	.4095	12.93	32.04
25	10.11686	.4047	12.78	31.66
26	10.40646	.4002	12.64	31.31
27	10.69606	.3961	12.51	30.99
28	10.93566	.3923	12.39	30.69
29	11.27526	.3888	12.28	30.42
30	11.56486	.3855	12.17	30.14
31	11.85446	.3824	12.08	29.92
32	12.14406	.3796	11.98	29.69
33	12.43366	.3768	11.90	29.48
34	12.72326	.3742	11.82	29.27
35	13.01286	.3718	11.74	29.09
Avg. per cut 2.91	3.71960	1.2782		

HOW CARS IN MULTIPLE CUT COSTS (*Continued from page 23*)

The problem is—just what is the cost difference (per car) between multiple car switching, as compared with single car switching? What is the difference in cost between switching a single car and the cost per car in multiple car lots?

Faced with this problem, and in need of an answer on short notice, the following examination of a simple switching operation (classification) was made. Consideration was given to placing riders on yard engines, or of seeking a mathematical solution. The use of data collected by engine riders was rejected for several reasons—

(1) Time did not permit the selection of an adequate sample period.

(2) Too expensive.

(3) Need for too much reliance on judgment in allocating time obviously not connected with the switching under study. It was found that at the particular yard in question adequate records were available of performance during the past year. The switch lists were marked so as to show actual cuts made by crews. The time involved was obtainable from the daily time sheets.

(*Continued on page 35*)

Why RRs Need 'Soft Selling'

By JAMES G. LYNE

Editor, Railway Age

There is evidence aplenty—garnered from railroad customers—that railroad freight traffic salesmen need to intensify their use of the technique known as "soft selling."

The term is really a misnomer, because soft selling isn't soft, or easy. Instead it's hard; hard work for the salesman, that is.

Anybody with a friendly knack with people can succeed at what is known as "personal selling." When all competitors are offering substantially equivalent service at equal rates—which was the situation when railroads did practically all the nation's freight hauling—that was "personal" salesmanship's heyday. The shipper could give his business to the salesman he liked best.

But nowadays, when there are so many alternatives open to the transportation buyer, the industrial traffic manager who wants to excel at his job has to do a lot of hard digging—because no two types of transportation give exactly the same service at exactly the same overall cost.

Where the Soft Sell Comes In

The traffic manager who would throw his tonnage to his friends—without much question as to how their costs and service compare with other contenders for this tonnage—is risking his future. And no alert railroad salesman will expect his traffic manager friends to do that.

Here's where the soft selling comes in. The salesman who sells soft doesn't try to take business away from a customer. Instead, he studies his customer's problems and finds out how his railroad fits in as the answer to these problems. The customer gives the traffic to the salesman, because he's convinced that that's the best course for him to pursue.

I heard the other day of a highly successful salesman of life insurance—who never tries to high-pressure his prospects. This man has made himself an expert on income taxes and estate taxes, and on how various kinds of life insurance can be worked into this maze—to enable men of wealth to maximize their estates.

He does not have to look for clients. They look for him. He has information that is vitally important to their welfare. He is a "soft" salesman, and he got that way by hard work.

Are there any great number of railroad traffic salesmen similarly qualified to give valuable information and advice to industrial traffic managers—about all the vast potentialities of railroad service (in combination, perhaps, with other forms of transportation) to enable the industrial traffic manager to make a record for himself with his employer?

What Kind of Ammunition?

The ammunition a successful soft salesman of transportation service most needs is information. Such as:

- All pertinent data about his own and connecting railroads' schedules and applicable rates, for the products the particular customer receives and ships.
- All significant data about service and rates available to the customer from other forms of transportation—including private transportation. If the service of other transportation offers convenience, or economy in loading expense, the salesman ought to know how much this greater convenience is worth to the customer in dollars and cents—so he'll know what railroad rates will have to be, to be made a real bargain for the shipper.
- He also ought to know railroad costs so he can figure out if his railroad can afford to make the rates necessary to attract the business. If he figures his company can afford to make such rates, then he ought to use his power of persuasion to induce his management to make these rates.
- He should know all he can about his customer's business and his customer's problems, including his customer's competition. If the customer's competitor is saving himself money by making wise use of railroad service, that information will be interesting and helpful to the customer.
- Railroads get permission to make the kind of rates they want to make, a lot more often than they get turned down; and the creative salesman, the effective soft salesman, will be the one who will figure out the kind of rates which will maximize his business and profits from his customers; and he'll use his sales ability to persuade his management to apply these rates.
- Finally, an effective salesman doesn't want to be a push-over for an aggressive customer. I heard of a case a few years ago where a large shipper went after a railroad for sharp rate reductions—insisting that such reductions were necessary to prevent diversion of the traffic to trucks. The company took the precaution of making its own truck cost study and found this customer had been kidding them.

How much of this creative selling, this effective soft selling, do we have on railroads today?

Not long ago a man from the marketing end of a pretty big business (gross $100 million) was given charge of the traffic department. Here should be a wonderful opportunity for railroads to do some creative selling, soft selling, the informational service type of selling. This new traffic manager knew little about railroad service and rates, and most of his company's traffic was moving by truck when he took over. A well informed railroad traffic man, approaching this fellow at this juncture, would have been a godsend to him. But no such creative, soft-selling railroad salesman called.

About this time the railroads made a major rate adjustment on the commodity group including this man's principal products. These rates had an incentive provision in them—really bargain rates, if cars were heavily loaded. Still, no railroad salesman called to tell this fellow about the opportunities for him in these new rates. But he was a hard worker and very curious.

He looked around and found out about these new rates all by himself. He sharpened his pencil and discovered that, by warehousing his products at destination, he could give a high-grade service to his company's customers by railroad service, plus warehousing, that would be more economical than direct trucking from factory to customers.

Indeed, these new railroad rates were so attractive that railroad plus warehouse service was substituted for over-the-road trucking for distances as low as only a little over 200 miles.

Disposed of His Trucks

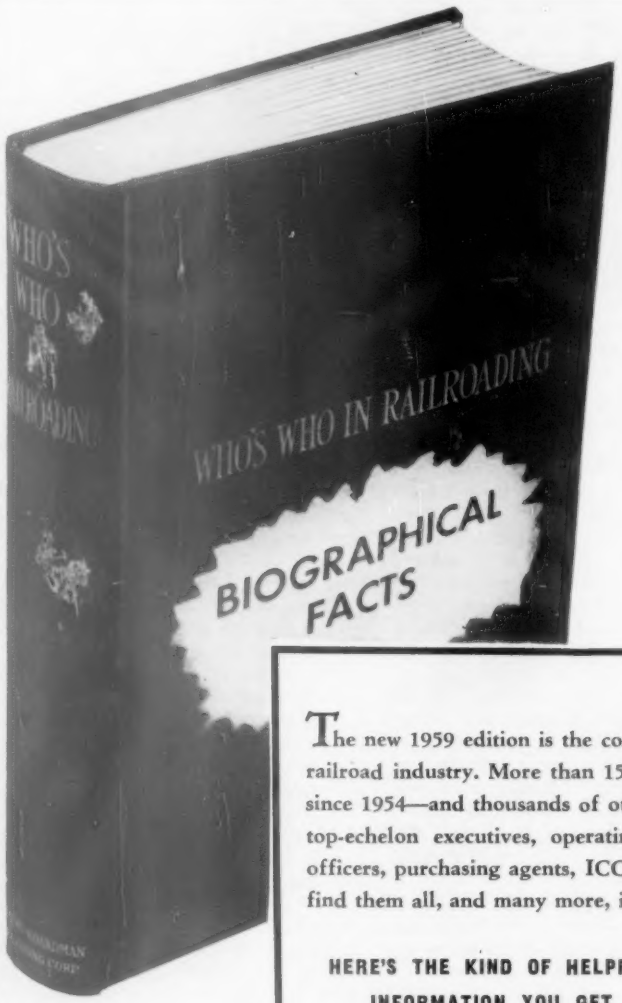
This same traffic manager has also found that a long-haul triangular movement of his own private trucks was no longer justified, with such attractive rail rates; and he has proceeded to dispose of most of his private trucks.

All this innovating he did on his own initiative. No railroad salesman awakened him to his opportunities.

It isn't as if this man weren't getting calls from railroad sales representatives. He gets plenty of them, he says, all along. But, he says, none of them has ever come to tell him something helpful

(*Continued on page 27*)

This article is adapted from a recent talk to the sales staff of a large railroad system.



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to him in his business. They haven't come to give him something, but to take something away, if possible. Their typical approach, he says, is to report that they heard he was shipping 10 cars a month A to B over the X, Y, & Z Railroad, and how about letting their road have 5 of those 10 cars?

I don't cite this as a typical case. Maybe, while this traffic manager was being overlooked by railroad salesmen, hundreds of other shippers were getting plenty of constructive attention. But I wonder.

Shippers Are on the Spot

I suspect that a good many of our friends, the industrial traffic managers, may be somewhat on the spot. I've just mentioned this one case where the traffic department has been taken over by the marketing department. The marketing and distribution departments, in some companies, have wide responsibilities—such as packaging, intra-plant movement, having goods on hand for customers when needed (but without excessive inventory costs).

There was a time when most industrial traffic managers were former railroad men—but industrial traffic departments have become of age now, and are training or promoting their own men. Such men have no special leaning toward railroads. They have no habit pattern of thinking of railroads first, when they think of shipping. With such people, railroad transportation has to stand strictly on its merits; and the railroad salesman has to know what these merits are, in relation to the traffic manager's problems, or probably the railroads won't get the business.

There is another source from which industrial traffic managers are coming —and this is the purchasing and financial departments.

A new man on a new job always needs information—and the salesman who can give him real information, honest information, and not just self-service sales talk, is likely to have an "in" which will endure.

Changes in top management of industrial traffic departments are of vital importance to railway sales departments—because, if the new man we're talking to is concerned with materials handling and inventories and all these other things—and the railroad who talks to him knows only about moving freight from one siding to another, then our railroad salesman is going to have a rather tough time.

Most really big banks specialize along industry lines. Every such bank has numerous vice presidents. It will have one vice president who specializes on railroads—and that man will know as much about every railroad that is a customer or a prospect, as the treasurer of that railroad knows. He may even know more than the railroad's own treasurer does—because he will have contacts with that railroad's shippers and he'll know what they think of it. And he'll know a lot about the road's physical plant—and what kind of capital expenditures would probably be most profitable. The big bank will also have a specialist in oil, another in the food industry, another in machine tools, in aviation, and so on. These specialists will know about as much about a customer's business as the customer himself knows.

We have that kind of specialized selling, creative selling, on the railroads—on a few commodities, notably coal. Some roads have paper experts. Even more of them have experts on grain or livestock. In any event these specialists are salesmen of a kind who do not have to count on their hospitality or personal charm to get business. They get the business by giving the customer the kind of assistance that enables him to do a better job.

The railroad freight traffic department is in much the same position of challenge and opportunity today that railroad mechanical departments were in about 20 years ago when the diesel locomotive first started to go strong. The eyes of chief executives were turned to the motive power department then, just as the eyes of chief executives are now turned on the traffic department.

What Presidents Want

Chief executives saw a great need and a great opportunity for improved performance in the motive power department—and the alert motive power officers sensed the challenge and opportunity. They went out and got the information and the skill they needed to do the dieselization job efficiently. Now the searchlight of attention is turned on the traffic department.

My friend Ed Hill of the Traffic Executive Association—Eastern Railroads has made some wise observations about the present sales position of the railroads. One of them is—*What we need to do is to get on the trend line of growth of a commodity*. If we get 60% of the tonnage one year and 55% the next and 50% of the next—it is only 12 years and we'll be out of business in hauling that commodity.

But if we can get 35% of the tonnage and hold that percentage as the total tonnage grows year by year, we'll do all right. And if we can get 35% this year and 37% next year and 39% the next—all percentages of a growing tonnage—then we'll really be in the money.

Too many salutary rate adjustments are put off, because "we can't afford the loss on traffic we're still handling." But we're going to get that loss anyhow unless we reverse the trend.

Another of Ed Hill's observations is: *Think little*. A lot of people tell us we ought to think big—and that is all right. But there are hundreds, maybe thousands, of commodities which in the aggregate produce thousands of carloads of freight, and for which commodities we've never taken the trouble to offer anything better than the regular class rates—no one of these commodities being big enough, we thought, to warrant special attention. But suppose an alert traffic man sees a commodity—no matter if it's only a few cars—moving wholly by truck and high rated by rail, how about proposing some realistic rates which will put half of that 50 or 100 cars per year on the railroads?

If we will seek out a few score of such commodities and try out some realistic rates on them, and find that these rates do the job, we'll really be in business.

Trucks Are Allies

The truck is, inherently, an adjunct to railroads, rather than a dangerous competitor. It is an ideal device for doing retail transportation—hence enabling railroads to get rid of a lot of tonnage they never could handle economically. The truck has not challenged us economically—but only because it has invaded hauls where it is not economically superior and because railroads have not competed hard enough for the longer hauls and the heavier carloads.

If we concentrate on jobs railroads can do best, and tailor our built-in advantages so as best to serve shippers and consignees, there's no reason why railroad traffic and earnings should not soon exceed those of any previous period in history. And, even better than that, the railroad tonnage curve will get attached to the growth curve of American industry.

That is the challenge and the opportunity of the railroad traffic departments. It is a job that involves collecting information and acting on it. It is soft selling, creative selling. It is the kind of selling that is hardest because it involves so much work. Probably it's the only kind of selling that top railway management will stand for in the years immediately ahead.

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands: i.e., with last three digits omitted)

MONTH OF OCTOBER AND TEN MONTHS OF CALENDAR YEAR 1959

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1959	1958	Operating Expenses: Maint. Way and Structures: Total 1959	Total 1958	Deprec and Ret re-ments	Maint. Equipment: Total	Deprec. and Retire-ments	Traffic	Trans-portation	Total 1959	Total 1958	Operating ratio 1959	1958	Net from railway operation	Railway tax accruals	Net Railway operating income 1959	1958
Akron, Canton & Youngstown	Oct.	171	443	....	457	514	49	58	6	80	68	15	51	141	366	363	80.1	70.6	91	53	18	49
	10 mos.	171	4,832	....	4,967	4,304	588	523	55	754	648	149	452	1,515	3,763	3,484	75.8	80.9	1,204	680	337	169
Alabama, Tenn. & Northern	Oct.	214	263	....	266	309	50	50	8	15	10	6	5	78	150	151	56.5	48.8	116	32	17	68
	10 mos.	214	2,774	....	2,851	2,535	498	495	64	112	222	56	44	838	1,526	1,665	53.5	65.7	1,325	362	233	189
Atchison, Topeka & Santa Fe	Oct.	12,992	41,096	2,687	51,768	56,552	6,785	7,432	713	10,113	10,044	2,417	1,465	19,159	39,810	39,244	76.9	69.4	11,958	6,660	4,598	7,471
	10mos.	13,045	446,490	33,193	527,507	485,949	67,965	60,823	8,139	106,056	94,903	23,237	14,062	187,292	399,137	364,490	75.7	75.0	128,370	72,285	48,221	50,405
Atlanta & St. Andrews Bay	Oct.	81	352	....	356	402	41	29	3	31	30	8	7	75	176	166	49.3	41.4	180	87	58	88
	10 mos.	81	3,260	....	3,310	3,541	398	338	35	310	296	78	72	751	1,753	1,627	52.9	45.9	1,557	713	498	671
Atlanta & West Point	Oct.	93	248	20	326	330	55	41	8	53	51	14	18	139	286	279	87.7	84.5	40	20	—9	12
Western of Alabama	10 mos.	93	2,416	220	3,170	3,040	423	369	79	525	519	140	179	1,339	2,679	2,735	84.5	90.0	491	180	75	—101
	Oct.	133	292	18	350	334	44	42	10	61	56	19	20	137	283	271	80.8	81.2	67	41	21	23
	10 mos.	133	2,908	201	3,501	3,263	508	445	97	593	557	189	201	1,376	2,889	2,756	82.5	84.5	612	422	188	185
Atlantic Coast Line	Oct.	5,267	10,590	788	12,404	12,774	1,674	1,829	126	2,403	2,427	637	472	5,180	10,411	10,353	83.9	81.0	1,992	925	644	718
	10 mos.	5,298	107,102	12,123	129,142	123,712	18,265	18,150	1,833	23,634	23,444	6,198	4,760	51,796	105,403	103,440	81.6	83.6	23,739	10,400	8,200	6,400
Charleston & West. Carolina	Oct.	343	488	....	500	644	90	138	7	88	88	28	19	207	421	441	84.2	68.5	49	55	40	107
	10 mos.	343	5,306	....	5,421	5,852	1,155	1,178	75	923	853	286	205	1,833	4,283	4,135	79.0	90.0	1,138	750	407	642
Baltimore & Ohio	Oct.	5 917	27,392	1,030	31,393	34,670	3,785	3,741	512	5,913	6,421	1,115	975	13,826	26,382	27,203	84.0	78.5	5,011	1,745	1,308	3,496
	10 mos.	5,917	290,633	12,086	327,646	318,424	36,148	32,518	4,975	59,669	55,064	11,120	9,648	140,331	265,563	254,771	81.1	80.0	62,082	21,051	22,588	24,917
Staten Island Rap. Tran.	Oct.	29	215	87	307	288	70	63	11	41	41	2	2	157	301	303	98.3	105.5	5	50	—70	—86
	10 mos.	29	1,893	843	2,797	2,830	551	555	127	394	367	17	21	1,573	2,870	2,852	102.2	100.8	—73	492	—788	—714
Bangor & Aroostook	Oct.	602	1,721	23	788	841	186	203	26	255	288	110	37	301	844	851	107.1	101.2	—56	Cr.19	56	174
	10 mos.	602	10,319	239	10,995	12,006	2,640	2,872	205	2,785	2,858	1,125	328	3,441	10,037	10,370	91.3	86.4	958	698	1,407	2,107
Bessemer & Lake Erie	Oct.	203	487	....	537	2,334	323	237	19	607	505	133	36	299	1,403	1,421	261.4	60.9	—866	Cr.167	—276	570
	10 mos.	203	15,293	....	15,901	15,420	2,581	2,509	219	6,356	5,034	1,382	383	4,288	15,084	13,815	94.9	89.6	817	3,257	1,716	1,594
Boston & Maine	Oct.	1,557	4,954	504	5 924	6,760	673	840	152	788	870	260	139	2,516	4,432	5,142	74.8	76.1	1,491	549	401	495
	10 mos.	1,557	49,049	6,094	60,755	64,100	7,719	9,075	1,556	8,625	8,710	2,723	1,482	27,184	48,749	53,114	80.2	82.9	12,006	4,974	1,776	851
CPR in Maine	Oct.	234	511	50	591	451	107	115	20	84	74	17	24	176	419	357	70.9	79.1	172	32	90	2
	10 mos.	234	6,796	467	7,547	6,420	1,294	1,244	203	1,065	940	174	135	1,876	4,612	4,346	61.1	67.7	2,935	347	1,841	1,034
Carolina & Northwestern	Oct.	295	370	....	376	292	52	49	7	31	28	21	5	80	187	181	49.8	61.8	189	23	105	23
	10 mos.	285	2,815	....	2,876	2,650	466	479	68	311	298	211	53	762	1,793	1,747	62.3	65.9	1,083	211	374	362
Central of Georgia	Oct.	1,745	3,498	91	3,860	3,743	529	487	47	752	679	194	175	1,462	3,119	3,010	80.8	80.4	741	273	421	628
	10 mos.	1,750	33,730	1,209	36,965	35,233	5,681	5,729	442	7,097	6,512	1,894	1,754	14,608	31,069	30,414	84.1	86.3	5,895	2,663	3,275	3,124
Central of New Jersey	Oct.	597	3,606	468	4,468	4,790	474	527	94	666	821	176	75	2,077	3,522	3,876	78.8	80.9	947	336	315	263
	10 mos.	597	35,721	4,787	43,905	44,871	4,946	5,309	953	7,716	7,684	1,670	753	21,416	37,128	37,773	84.6	84.2	6,777	4,126	384	430
Central Vermont	Oct.	375	705	47	837	931	211	169	18	96	104	9	19	341	705	695	84.2	74.7	132	69	—32	59
	10 mos.	375	7,500	501	8,764	8,882	2,242	2,654	182	1,081	1,050	94	195	3,521	7,432	7,928	84.8	89.3	1,332	549	—437	—991
Chesapeake & Ohio	Oct.	5,122	26,918	410	28,941	33,235	3,500	3,570	483	4,641	5,165	1,884	890	10,347	21,114	22,150	73.0	66.6	7,827	3,150	4,916	6,819
	10 mos.	5,122	269,345	5,018	290,010	293,326	32,730	31,410	4,905	50,619	48,927	18,714	8,352	106,154	214,666	210,286	74.0	71.7	75,344	33,807	45,935	50,493
Chicago & Eastern Illinois	Oct.	862	2,834	133	3,250	3,320	335	389	31	596	499	179	154	1,122	2,398	2,427	73.8	73.1	852	244	400	443
	10 mos.	862	26,242	1,678	30,611	29,572	3,571	3,720	299	5,104	4,871	1,653	1,464	11,913	23,779	23,630	77.7	79.9	6,832	2,248	2,287	1,611
Chicago & Illinois Midland	Oct.	121	665	....	684	534	32	39	7	105	113	23	30	147	363	359	53.0	67.1	321	177	132	79
	10 mos.	121	5,991	....	6,149	5,015	414	392	79	1,004	1,031	231	302	1,466	3,635	3,538	59.1	70.5	2,514	1,421	1,011	556
Chicago & North Western	Oct.	9,280	14,511	1,380	17,423	20,706	2,592	2,979	300	2,914	2,810	1,000	559	7,541	14,683	15,654	84.3	75.6	2,740	1,318	74	2,403
	10 mos.	9,285	150,247	15,315	181,012	180,399	29,258	27,104	3,380	30,725	28,715	9,963	5,528	77,535	154,100	148,254	85.1	82.2	26,912	13,436	3,716	8 804
Chicago, Burl. & Quincy	Oct.	8,681	18,811	1,570	22,640	26,159	2,885	3,172	470	3,308	3,987	1,073	610	8,991	16,829	17,682	74.3	67.6	5,811	3,257	1,989	3,688
	10 mos.	8,685	180,337	17,101	219,035	212,249	30,663	28,097	4,070	41,712	37,532	10,495	6,421	87,34	176,547	164,999	80.6	77.7	42,488	21,597	15,656	19,487
Chicago Great Western	Oct.	1,469	2,777	7	3,002	3,173	443	482	42	419	427	129	120	996	2,080	2,091	69.3	66.0	922	563	273	402
	10 mos.	1,469	26,694	84	28,724	29,408	4,208	4,602	438	4,238	4,328	1,304	1,255	9,640	20,188	20,396	70.3	69.4	8,536	3,118	3,090	3,595
Chic., Milw., St. P. & Pac.	Oct.	10,599	17,331	1,105	20,525	23,437	2,604	3,693	422	3,347	3,566	893	606	7,942	15,693	17,483	76.5	74.6	4,831	1,482	2,476	3,350
	10 mos.	10,592	171,208	12,688	204,513	204,342	32,349	32,516	4,134	35,404	35,317	7,879	5,641	81,699	167,592	166,977	81.9	81.7	36,921	16,312	11,979	13,614
Chicago, R. Is. & Pac.	Oct.	7,524	14,018	1,221	17,045	18,880	2,380	2,602	283	3,093	3,112	648	538	7,099	14,000	14,141	82.1	74.9	3,045	1,345	677	1,605
	10 mos.	7,538	155,232	13,775	185,950	173,295	24,540	22,067	2,645	32,158	29,505	6,326	5,561	73,462	145,530	134,401	78.3	77.9	40,419	17,255	9,470	11,185
Clinchfield	Oct.	293	1 092	....	1,700	1,895	229	241	22	323	310	107	67	485	1,121	1,131	65.9	59.6	579	199	521	803
	10 mos.	293	17 429	5	17,531	17,322	2,192	2,290	220	3,216	3,220	1,069	651	4,382	11,109	11,040	63.4	63.7	6,422	2,038	5,843	5,921
Colorado & Southern	Oct.	712	950	59	1,171	1,629	183	180	23	223	254	80	32	530	1,043	1,201	89.1	73.7	128	52	63	173
	10 mos.	714	11,009	669	13,178	13,146	2,491	1,755	254	2,354	2,047	750	364	5,454	11,440	10,276	86.8	78.2	1,738	1,048	473	1,167
Ft. Worth & Denver	Oct.	1,362	2,036	146	2,429	2,960	238	296	30	258	278	47	65	922	1,616	1,808	66.5	61.1	813	287	194	350
	10 mos.	1,362	18,077	1,454	21,841	21,463	3,514	2,842	301	2,919	2,782	460	775	8,664	17,146	15,819	78.5	73.7	4,694	1,457	767	1,477
Colorado & Wyoming	Oct.	39	1	....	28	330	13	18	2	24	37	12	2	9	70	189	250.0	57.2	—42	Cr.20	—37	53
	10 mos.	39	1,579	....	2,709	2,848	176	186	22	324	313	124	19	924	1,607	1,718	59.3	60.3	1,103	666	378	401
Delaware & Hudson	Oct.	764	3,578	104	3,847	4,241	421	370	69	782	716	218	101	1,317	2,898	2,913	75.3	68.7	950	381	570	599
	10 mos.	764	35,549	1,295	38,362	38,593	4,232	4,537	616	6,977	6,497	2,002	1,049	14,243	29,357	29,603	76.5	76.7	9,005	4,222	5,182	3,718
Delaware, Lack. & Western	Oct.	941	4,646	710	6,181	6,842	521	734	163	998	1,214	345	189	3,086	5,167	5,521	83.6	85.1	1,014	700	201	303
	10 mos.	922	45,293	7,437	60,022	64,136	5,366	7,287	1,545	10,202	10,894	3,470	1,957	31,174	52,509	57,438	87.5	89.6	7,514	6,766	—382	—1,257
Denver & Rio Grande Western	Oct.	2,128	5,686	205	6,123	8,018	658	695	106	958	995	326	240	2,010	4,149	4,567	67.8	57.0	1,974	1,140	859	1,754
	10 mos.	2,130	57,813	2,532	62,570	63,911	7,375	7,276	1,018	9,436	9,362	3,216	2,368	20,360	42,612	41,939	68.1	65.6	19,959	11,059	8,992	10,734
Detroit & Toledo Shore Line	Oct.	10	539	....	590	528	56	51	4	74	71	24	20	226	393	369	66.6	70.0	197	78	45	25
	10 mos.	50	6 012	....	6,493	5,515	610	597	39	820	713	239	206	2,320	4,127	3,785	63.6	68.6	2,366	884	495	258
Detroit, Toledo & Ironton	Oct.	465	1,449	....	1,513	1,864	237	195	28	343	379	153	62	471	1,218	1,199	80.5	64.9	295	130	196	538
	10 mos.	465	17,602	....	17,893	14,125	2,501	1,986	281	4,026	3,474	1,451	557	4,957	13,015	11,342	72.7	80.3	4,877	1,187	3,420	1,857
Duluth, Miss. & Iron Range	Oct.	556	484	2	571	4,987	382	427	70	497	631	204	13	595	1,725	2,715	302.1	54.4	—1,154	Cr.546	—616	898
	10 mos.	556	21,928	11	25,862	33,837	4,821	4,856	741	5,688	6,244	1,971	129	9,503	22,694	24,335	87.7	71.9	3,168	2,573	396	3,249
Duluth, So. Shore & At.	Oct.	544	515	2	546	646	108	102	10	102	96	26	37	189	460	474	84.3	73.3	86	48	17	124
	10 mos.	544	5,508	23	5,885	5,591	1,162	1,063	103	1,113	1,012	261	340	2,035	4,913	4,737	83.5	84.7	973	347	461	446

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF OCTOBER AND TEN MONTHS OF CALENDAR YEAR 1959

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1959	Total (inc. misc.) 1958	Operating Expenses: Maint. Way and Structures: Total 1959	Total 1958	Deprec. and Retirements	Maint. Equipment: Total 1959	Total 1958	Deprec. and Retirements	Traffic	Transportation	Total 1959	Total 1958	Operating ratio 1959	Operating ratio 1958	Net from railway operation	Railway tax accruals	Net Railway operating income 1959	Net Railway operating income 1958
Duluth, Winnipeg & Pacific	Oct.	175	458	1	474	577	59	79	7	48	49	1	7	182	307	329	64.8	56.9	167	46	43	113
	10 mos.	175	4,844	7	4,901	5,064	1,146	856	52	593	591	12	75	1,825	3,746	3,402	76.4	67.2	1,155	433	—111	423
Elgin, Joliet & Eastern	Oct.	205	914		1,011	4,507	195	305	29	373	625	131	44	683	1,570	2,731	155.4	60.6	—559	—256	—288	643
	10 mos.	205	27,477		36,202	34,922	2,793	2,657	283	6,752	9,149	1,056	446	14,499	27,816	28,563	76.8	81.8	8,386	4,709	1,757	1,347
Erie	Oct.	2,233	11,063	510	12,687	14,571	1,335	1,447	230	2,155	2,011	561	386	5,908	10,565	11,045	83.3	75.8	2,122	1,147	199	1,805
	10 mos.	2,210	112,185	5,440	128,443	126,254	14,594	14,169	2,280	21,472	19,672	5,479	3,653	62,037	109,474	106,066	85.2	84.0	18,969	11,887	—445	1,086
Florida East Coast	Oct.	572	1,977	218	2,489	2,577	368	427	39	571	545	118	98	977	2,168	2,199	90.0	85.3	241	214	—175	—10
	10 mos.	572	21,040	3,816	27,339	28,345	4,016	4,059	490	5,411	5,375	1,176	894	10,845	22,910	22,887	83.8	80.7	4,430	2,106	142	1,145
Georgia Railroad	Oct.	321	517	14	621	724	97	96	8	119	110	35	40	283	597	594	96.1	82.0	24	43	1	102
	10 mos.	321	5,628	158	6,689	6,478	943	865	83	1,232	1,099	344	405	3,127	6,081	5,674	90.9	87.6	608	408	353	662
Georgia & Florida	Oct.	321	260		266	293	51	61	3	36	41	10	23	81	216	225	81.3	76.9	50	18	19	31
	10 mos.	321	2,798		2,863	2,730	729	693	55	494	360	82	228	914	2,480	2,275	86.6	83.3	383	183	—43	78
Grand Trunk Western	Oct.	951	3,425	199	4,088	4,039	702	687	65	864	851	111	91	2,142	4,046	4,044	99.0	100.1	42	400	—945	—812
	10 mos.	951	42,025	2,205	48,580	43,218	7,048	7,155	711	9,101	8,438	1,105	946	23,982	43,603	41,444	89.8	95.9	4,977	3,975	—5,208	—7,167
Great Northern	Oct.	8,291	20,676	680	22,657	27,639	2,866	3,805	286	4,109	3,438	891	584	7,453	15,984	16,451	70.5	59.5	6,673	3,459	3,071	5,287
	10 mos.	8,293	190,506	8,337	213,341	210,382	34,152	32,629	3,303	39,978	38,000	8,758	5,672	75,203	165,318	159,644	77.5	75.9	48,023	26,568	18,403	21,098
Green Bay & Western	Oct.	219	381		397	405	80	67	4	34	44	9	29	132	300	287	75.5	70.8	98	45	19	34
	10 mos.	219	3,864		3,965	3,859	669	750	46	458	492	88	283	1,229	2,094	2,947	73.2	76.4	1,061	517	232	231
Gulf Mobile & Ohio	Oct.	2,752	6,393	206	7,029	7,579	916	1,043	94	1,375	1,356	303	301	2,367	5,102	5,434	72.6	71.7	1,926	1,002	631	742
	10 mos.	2,752	61,497	2,274	68,305	66,559	9,144	9,191	770	13,586	13,268	2,998	3,028	23,151	52,393	52,852	76.7	79.4	15,911	7,382	4,526	4,322
Illinois Central	Oct.	6,500	20,597	1,770	24,911	25,502	2,993	3,075	373	4,171	3,675	805	646	8,990	17,886	19,590	71.8	69.0	7,025	3,561	2,521	3,599
	10 mos.	6,457	184,502	18,546	225,371	218,396	32,227	30,355	4,025	41,496	39,700	8,419	6,365	86,586	177,837	173,207	78.9	79.3	47,534	25,270	15,655	17,372
Illinois Terminal	Oct.	334	769		866	1,207	106	130	3	158	198	31	48	344	709	813	81.9	67.4	157	45	8	150
	10 mos.	334	8,033		8,916	10,051	1,060	1,162	28	1,843	1,517	307	481	3,563	7,518	7,378	84.3	73.4	1,398	324	—12	854
Kansas City Southern	Oct.	891	3,295	61	3,710	3,767	252	276	60	552	470	113	109	1,120	2,157	2,154	58.2	57.2	1,552	721	641	717
	10 mos.	891	33,682	733	37,965	35,225	2,899	2,673	486	5,216	4,675	1,089	981	11,640	22,025	20,699	58.0	58.8	15,940	6,647	6,666	6,279
Kansas, Oklahoma & Gulf	Oct.	327	420		421	479	34	51	7	31	19	12	33	92	217	220	51.5	45.9	204	91	74	127
	10 mos.	327	4,531		4,549	4,345	597	651	75	340	268	119	346	949	2,515	2,425	55.3	55.8	2,034	872	728	764
Lake Superior & Ishpeming	Oct.	160	88		92	704	37	54	12	49	55	35	2	44	151	273	163.9	38.8	—59	Cr.11	—32	198
	10 mos.	160	2,575		3,113	3,703	798	579	114	622	639	309	22	897	2,534	2,353	81.4	63.6	579	446	283	653
Lehigh & Hudson River	Oct.	96	272		272	288	21	35	2	27	38	8	15	108	190	215	69.7	74.8	82	38	11	6
	10 mos.	96	2,770		2,775	2,701	289	341	26	289	369	83	156	1,114	2,023	2,097	72.9	77.6	752	321	90	—10
Lehigh & New England	Oct.	177	540		548	671	55	67	7	179	137	45	20	225	528	527	96.5	78.4	19	42	107	359
	10 mos.	177	5,021		5,076	5,623	620	674	70	1,675	1,349	491	191	2,105	5,053	4,932	100.1	87.7	—7	348	879	1,501
Lehigh Valley	Oct.	1,127	3,918	112	4,243	5,362	507	549	97	628	938	29	147	2,219	3,721	4,428	87.7	82.6	522	463	—79	298
	10 mos.	1,128	41,076	1,477	45,197	48,385	5,332	6,093	990	7,649	8,571	1,613	1,411	24,015	40,683	43,759	90.0	90.4	4,513	4,606	—1,616	—2,646
Long Island	Oct.	344	1,100	4,501	5,816	5,853	809	809	100	1,105	1,086	169	40	2,909	5,084	5,003	87.4	85.5	732	418	71	271
	10 mos.	344	10,528	45,107	57,633	56,844	8,091	7,924	1,032	11,049	10,901	1,687	438	29,105	50,808	49,474	88.2	87.0	6,825	3,908	755	1,794
Louisiana & Arkansas	Oct.	746	1,997	40	2,166	2,209	170	161	20	324	281	98	89	675	1,334	1,284	61.6	58.2	832	438	281	354
	10 mos.	746	19,708	416	21,193	20,185	1,932	1,831	201	3,038	2,897	984	799	6,790	13,538	13,301	62.9	64.4	7,855	4,032	2,773	2,588
Louisville & Nashville	Oct.	5,697	17,120	572	19,200	22,015	2,269	2,854	441	3,681	4,081	1,142	506	7,414	14,768	16,208	76.9	73.6	4,432	3,322	1,632	2,547
	10 mos.	5,697	168,535	7,006	189,897	187,259	25,634	26,997	3,150	38,276	38,708	11,207	4,961	74,936	152,743	156,018	80.4	83.3	37,154	27,535	14,835	15,403
Maine Central	Oct.	936	1,737	39	1,906	1,987	422	397	31	363	361	84	37	744	1,687	1,688	88.5	84.9	220	92	115	146
	10 mos.	941	18,685	559	20,536	21,015	3,753	3,813	286	3,750	3,758	838	317	7,788	16,811	17,098	81.9	81.4	3,725	1,933	1,402	1,427
Minneapolis & St. Louis	Oct.	1,391	1,681		1,740	2,135	260	312	29	238	315	67	127	625	1,395	1,582	80.1	74.1	346	166	150	303
	10 mos.	1,391	17,628	9	18,207	19,013	2,846	2,872	299	3,102	2,983	975	1,197	6,452	13,056	14,641	82.7	77.0	3,151	1,750	1,257	1,698
Minn., Northfield & Southern	Oct.	77	328		350	421	29	27	2	47	38	13	35	89	238	219	67.8	52.1	113	72	30	71
	10 mos.	77	3,497		3,663	3,826	242	234	24	409	386	128	328	948	2,283	2,123	62.3	55.5	1,380	777	501	653
Minn., St. P. & S. Ste. Marie	Oct.	3,222	3,161	55	3,456	4,481	832	581	50	605	576	145	118	1,368	3,127	2,885	90.5	64.4	329	Cr.617	702	922
	10 mos.	3,222	33,349	635	35,969	36,475	7,354	6,539	532	6,791	6,401	1,414	1,127	14,226	31,592	29,864	87.8	81.9	4,377	1,950	1,578	2,938
Missouri Illinois	Oct.	172	547		553	519	48	43	4	84	77	40	14	139	298	307	53.9	59.1	255	134	164	103
	10 mos.	172	4,655		4,697	4,069	448	655	48	877	866	383	137	1,294	2,889	2,944	61.6	72.4	1,799	1,311	993	682
M-K-T Lines	Oct.	2,918	4,274	70	4,761	5,703	433	631	85	1,121	1,101	262	191	1,669	3,654	4,529	76.3	74.7	1,128	339	272	494
	10 mos.	2,918	44,658	749	49,598	51,114	5,324	5,377	875	10,322	9,822	2,615	1,828	17,442	37,107	38,268	74.8	74.9	12,491	3,442	3,384	3,718
Missouri Pacific	Oct.	9,428	21,932	783	25,429	26,806	3,527	3,345	343	4,344	4,090	1,094	694	9,754	19,341	19,031	76.1	71.0	6,089	1,841	2,931	3,703
	10 mos.	9,463	220,572	9,189	254,221	241,544	34,810	35,532	3,440	43,704	41,305	10,866	6,874	97,697	193,160	186,265	76.0	77.1	61,061	20,903	27,327	27,445
Monon	Oct.	541	1,673	35	1,821	1,920	249	349	20	318	287	77	109	697	1,470	1,550	80.7	80.7	351	170	142	152
	10 mos.	541	15,279	351	16,782	16,579	2,435	2,386	212	3,026	2,835	766	1,014	6,735	14,233	14,012	84.8	84.5	2,549	1,002	921	895
Monongahela	Oct.	177	511		514	361	71	64	13	50	46	11	1	154	291	274	56.7	75.9	223	18	142	—34
	10 mos.	177	4,322		4,348	3,829	678	661	127	547	547	110	9	1,667	3,077	2,926	70.8	76.4	1,271	162	563	—443
New York Central	Oct.	10,361	42,002	5,009	56,494	61,342	5,398	5,848	1,070	11,100	9,700	2,454	1,072	26,407	46,940	47,664	83.1	77.7	9,554	5,859	1,815	6,350
	10 mos.	10,418	431,434	57,083	572,038	539,310	60,478	58,469	10,827	109,000	95,800	24,078	10,457	259,767	480,007	462,434	83.9	85.7	92,031	57,346	18,117	4,079
Pitts. & Lake Erie	Oct.	221	879	29	958	3,097	329	258	82	756	1,954	281	69	630	1,970	2,632	205.8	85.0	—1,013	Cr.17	176	956
	10 mos.	221	23,402	330	25,058	25,955	3,650	4,148	641	8,473	9,118	3,222	641	19,165	24,992	26,546	99.7	102.3	65	3,930	6,390	5,978
New York, Chic. & St. L.	Oct.	2,170	11,359	106	11,945	13,976	1,186	1,357	154	1,759	1,822	477	350	4,405	8,184	8,745	68.5	62.6	3,761	1,623	1,709	2,175
	10 mos.	2,172	117,899	1,353	124,149	116,290	13,625	13,005	1,618	20,367	18,966	4,643	3,535	46,950	89,343	85,922	72.0	73.9	34,806	16,565	14,158	11,878
New York, N. H. & Hartford	Oct.	1,762	6,425	3,555	11,867	13,330	1,551	1,743	281	1,573	1,846	514	261	5,778	10,099	10,702	85.1	80.3	1,768	989	—579	342
	10 mos.	1,762	65,512	37,883	120,618	123,497	14,885	15,002	2,908	17,803	19,186	4,662	2,414	58,847	103,266	104,465	85.6	84.6	17,352	9,957	—6,659	—3,443
New York Connecting	Oct.	21	285		327	392	109	83	25	11	12			74	198	184	60.5	46.9	129	89	14	97
	10 mos.	21	2,961		3,263	3,549	718	1,140	253	134	157			866	1,756	2,205	53.8	62.1	1,508	883	390	257
New York, Sus. & Western	Oct.	100	320	15	349	406	45	43	6	46	55	11	11	173	325	388	88.4	80.1	40	36	—45	—1
	10 mos.	104	3,021	172	3,342	3,498	419	398	64	526	539	106	87	1,709	3,047	3,103	91.2	88.7	295	325	—426	—319

(Continued on next page)

REVENUES AND EXPENSES OF RAILWAYS

(Dollar figures are stated in thousands; i.e., with last three digits omitted)

MONTH OF OCTOBER AND TEN MONTHS OF CALENDAR YEAR 1959

Name of Road		Average mileage operated during period	Operating Revenues: Freight	Pass.	Total (inc. misc.) 1959	1958	Operating Expenses: Maint. Way and Structures: Total 1959	Total 1958	Deprec. and Retirements	Maint. Equipment: Total 1959	Total 1958	Deprec. and Retirements	Traffic	Transportation	Total 1959	Total 1958	Operating ratio 1959	1958	Net from railway operation	Railway tax accruals	Net Railway operating income 1959	1958
Norfolk & Western	Oct.	2,137	15,123	202	16,108	18,214	1,628	1,893	319	2,546	2,739	1,168	411	4,390	9,991	10,795	62.0	59.3	6,117	2,418	4,854	5,100
	10 mos.	2,138	156,950	2,108	167,011	169,938	17,723	21,531	3,477	28,419	31,861	11,245	3,578	45,959	103,855	114,595	62.2	67.4	63,156	32,970	42,247	52,661
Norfolk Southern	Oct.	592	870	....	888	894	197	201	17	153	134	40	51	274	741	719	83.5	80.5	146	64	59	48
	10 mos.	592	8,099	....	8,250	7,710	1,895	1,888	143	1,339	1,243	352	510	2,669	7,065	6,712	85.8	87.1	1,165	586	310	111
Northern Pacific	Oct.	6,834	14,550	432	16,187	18.3	2,322	2,100	558	2,611	3,075	774	422	5,729	12,007	12,785	74.2	69.7	4,181	2,835	1,709	2,428
	10 mos.	6,830	139,483	5,036	155,515	149,751	24,085	19,798	4,025	27,029	27,455	7,620	4,160	59,603	124,112	118,013	79.8	78.8	31,403	21,094	12,491	14,699
Northwestern Pacific	Oct.	328	1,192	....	1,203	1,203	216	236	36	61	94	3	7	340	651	707	54.1	58.8	552	225	125	111
	10 mos.	328	11,803	5	11,903	10,216	2,131	2,482	227	819	811	25	79	3,424	6,702	6,907	56.3	67.6	5,201	2,069	1,169	534
Pacific Electric	Oct.	358	963	....	1,113	1,186	168	171	24	46	—6	4	22	560	902	826	81.1	69.6	211	171	—74	127
	10 mos.	360	10,292	....	11,745	10,692	1,838	1,670	237	542	526	36	210	5,720	9,333	8,609	79.5	80.5	2,412	1,333	—295	—167
Pennsylvania	Oct.	9,920	52,144	7,709	70,037	80,605	6,375	7,423	1,453	14,215	14,045	2,933	1,072	31,628	56,688	60,993	80.9	75.7	13,349	5,615	2,034	6,384
	10 mos.	9,920	560,108	86,510	736,086	698,557	71,981	75,767	14,568	147,999	136,745	29,685	12,014	335,087	706,655	597,314	82.6	85.5	128,431	57,059	21,606	6,066
Penn.-Reading S. S. Lines	Oct.	338	599	65	684	696	158	188	38	130	131	26	9	482	834	884	122.0	127.0	—150	70	—373	—426
	10 mos.	347	5,590	1,020	6,814	6,929	2,171	2,028	708	1,310	1,226	258	87	4,891	8,997	8,711	132.0	125.7	—2,183	726	—4,499	—4,019
Piedmont & Northern	Oct.	126	504	....	516	508	44	53	5	40	31	10	31	95	259	231	50.1	45.5	257	128	73	109
	10 mos.	126	4,594	....	4,693	4,233	431	490	48	348	285	95	311	897	2,361	2,209	50.3	52.2	2,352	1,197	647	619
Pittsburgh & West Virginia	Oct.	132	420	....	422	763	273	143	25	145	160	45	65	199	738	677	174.8	88.8	—316	Cr.161	—130	64
	10 mos.	132	6,389	....	6,454	6,669	1,557	1,357	247	1,567	1,490	454	728	2,130	6,574	6,380	101.9	95.7	—120	Cr.26	149	389
Reading	Oct.	1,303	7,398	522	8,669	9,485	1,071	920	184	1,540	1,622	475	202	3,732	6,999	7,159	80.7	75.5	1,670	592	805	1,271
	10 mos.	1,303	76,799	4,971	88,240	88,201	11,236	11,784	1,925	17,028	15,842	4,754	1,930	39,638	74,483	74,464	84.4	84.4	13,757	4,191	6,272	7,336
Richmond, Fred. & Potomac	Oct.	118	1,275	287	1,933	1,825	164	151	28	294	279	67	28	659	1,277	1,280	66.1	70.2	656	412	173	162
	10 mos.	118	12,538	4,071	19,848	19,987	1,511	1,622	224	2,902	2,806	663	290	7,029	13,236	13,427	66.7	67.2	6,612	3,839	1,965	2,204
Rutland	Oct.	391	361	....	391	452	75	80	7	61	60	18	26	160	352	363	90.2	80.2	38	31	2	55
	10 mos.	391	3,577	....	3,844	3,876	770	733	85	591	569	178	293	1,579	3,509	3,454	91.3	89.1	335	302	—7	96
St. Louis-San Francisco	Oct.	4,558	9,702	202	10,700	11,293	1,534	1,587	193	1,603	1,735	604	361	4,190	8,295	8,365	77.5	74.1	2,405	996	1,179	1,994
	10 mos.	4,568	91,086	2,198	100,552	94,240	15,450	13,383	1,928	17,060	16,008	6,068	3,543	39,568	81,578	76,860	81.1	81.6	18,974	7,387	9,573	10,000
St. Louis-S. F. & Texas	Oct.	143	398	3	425	399	38	28	3	30	23	2	23	151	253	244	59.5	61.0	172	62	42	46
	10 mos.	143	4,040	29	4,302	3,668	279	432	42	277	242	12	229	1,522	2,426	2,509	56.4	68.4	1,875	741	538	216
St. Louis Southwest. Lines	Oct.	1,556	5,723	5	5,826	5,886	532	786	181	801	892	199	181	1,827	3,518	3,610	60.4	61.3	2,308	1,028	948	1,061
	10 mos.	1,556	54,230	58	55,179	49,973	5,864	7,016	860	6,812	6,863	1,920	1,872	18,035	34,581	33,934	62.7	67.9	20,597	9,434	8,823	7,555
Savannah & Atlanta	Oct.	144	329	....	343	356	48	57	2	64	64	19	17	119	260	253	75.8	71.1	83	36	40	65
	10 mos.	144	3,279	....	3,432	3,191	511	586	17	638	578	193	167	1,160	2,599	2,460	75.7	77.1	833	361	402	438
Seaboard Air Line	Oct.	4,147	11,654	790	13,475	13,208	1,853	1,973	214	2,606	2,605	733	450	4,876	10,451	10,499	77.6	79.5	3,022	1,282	1,514	1,433
	10 mos.	4,147	112,363	10,792	133,388	127,726	17,019	18,223	2,084	24,465	25,568	7,034	4,533	48,237	101,231	102,261	75.9	80.1	32,157	14,276	15,955	14,834
Southern Railway	Oct.	6,269	20,330	616	22,699	22,792	2,768	3,350	603	3,758	3,815	948	496	7,120	15,436	16,148	68.0	70.9	7,263	3,366	3,335	3,172
	10 mos.	6,269	199,272	8,859	224,913	209,789	28,442	30,957	3,456	37,866	36,106	9,501	4,911	71,183	154,868	154,195	68.9	73.5	78,045	31,844	32,155	29,872
Alabama Great Southern	Oct.	328	1,113	30	1,290	1,379	210	269	35	286	291	82	41	465	1,113	1,165	86.3	84.5	177	87	69	276
	10 mos.	328	11,944	444	13,790	12,994	2,338	2,482	351	3,184	3,010	820	405	4,865	11,866	11,669	86.0	89.8	1,924	954	626	384
Cinn., N. O. & Tex. Pac	Oct.	337	2,968	56	3,252	3,317	595	673	115	691	678	223	83	810	2,402	2,480	73.9	74.8	849	415	603	716
	10 mos.	337	30,498	831	33,368	30,013	5,736	6,025	771	7,002	6,747	2,224	815	8,770	24,386	24,206	73.1	80.7	8,982	4,128	6,141	4,278
Georgia Southern & Florida	Oct.	397	767	23	868	957	132	86	20	69	78	10	23	274	561	530	64.6	55.4	307	93	58	188
	10 mos.	397	7,431	327	8,550	7,813	1,213	1,495	123	875	795	105	230	2,704	5,638	5,806	65.9	74.3	2,911	663	573	—203
New Orleans & Northeastern	Oct.	203	756	26	861	907	214	247	42	199	192	86	28	293	813	794	94.4	87.5	48	82	35	123
	10 mos.	203	8,476	325	9,547	9,499	1,985	1,883	258	2,000	1,968	844	271	2,588	7,629	7,271	79.9	76.5	1,919	1,408	947	1,113
Southern Pacific	Oct.	8,066	42,928	1,809	47,384	47,785	5,495	5,815	622	10,785	10,997	2,516	761	17,447	36,621	37,929	77.3	79.4	10,763	5,333	4,328	4,405
	10 mos.	8,069	416,163	22,728	465,508	428,144	53,776	52,758	5,232	101,901	94,681	24,720	7,978	175,097	360,128	344,083	77.4	80.4	105,379	52,965	42,215	39,091
Texas & New Orleans	Oct.	4,157	10,668	232	11,511	11,966	2,077	1,736	360	1,752	1,611	204	250	4,206	8,887	8,281	77.2	69.2	2,624	1,007	582	1,168
	10 mos.	4,163	108,813	2,981	117,948	112,691	19,663	18,761	2,065	16,960	15,944	1,984	2,535	43,155	88,418	84,745	75.0	75.2	29,530	11,984	6,525	6,018
Spokane International	Oct.	150	267	....	282	263	74	24	3	24	30	9	9	73	190	151	67.4	57.4	92	64	—6	57
	10 mos.	150	2,883	....	2,984	3,231	487	521	33	260	320	102	52	753	1,659	1,872	55.6	57.9	1,324	590	477	584
Spokane, Portland & Seattle	Oct.	936	2,632	82	2,905	3,005	459	456	57	449	534	129	35	1,057	2,122	2,220	73.1	73.9	783	Cr.63	745	445
	10 mos.	936	26,056	844	28,779	27,124	4,489	4,381	590	4,702	4,621	1,285	347	10,319	21,068	20,545	73.2	75.7	7,711	2,887	3,948	3,268
Tennessee Central	Oct.	284	331	....	355	370	50	42	5	45	53	21	15	122	255	261	71.9	70.6	100	26	33	45
	10 mos.	284	3,306	4	3,461	3,380	440	414	52	508	497	215	169	1,217	2,572	2,515	74.3	74.4	889	238	248	241
Texas & Pacific	Oct.	1,831	5,142	276	6,082	6,440	826	854	112	1,040	1,052	281	225	2,522	4,983	4,943	82.0	76.7	1,099	437	376	662
	10 mos.	1,831	52,582	3,270	61,922	59,930	8,273	8,182	1,018	10,578	10,592	2,743	2,084	25,659	50,171	48,401	81.2	80.8	11,651	4,590	3,252	3,361
Texas Mexican	Oct.	161	248	....	277	314	60	73	7	33	40	11	12	80	208	229	75.2	72.9	69	40	2	12
	10 mos.	161	2,777	....	3,076	3,165	605	601	59	335	343	114	124	980	2,205	2,136	71.7	67.5	871	377	138	243
Toledo, Peoria & Western	Oct.	239	662	....	687	720	84	100	7	56	49	13	52	178	414	410	60.2	57.0	273	120	79	99
	10 mos.	239	6,341	1	6,560	6,258	791	789	68	514	531	128	505	1,718	3,954	3,784	60.3	60.5	2,606	1,127	780	825
Union Pacific	Oct.	9,743	39,956	1,888	45,226	49,928	4,930	5,260	533	7,270	8,493	2,306	1,264	15,432	31,136	33,079	68.8	66.3	14,090	7,391	4,462	6,722
	10 mos.	9,747	375,766	23,610	430,655	416,382	51,647	54,192	5,643	79,908	76,653	22,062	12,309	151,006	317,807	307,924	73.8	74.0	112,848	62,064	31,047	34,889
Virginian	Oct.	608	3,918	....	4,051	4,679	498	447	72	863	568	276	61	854	1,897	2,063	46.8	44.1	2,154	840	1,562	1,465
	10 mos.	608	37,157	....	38,616	41,534	4,846	4,409	808	6,874	6,593	2,832	626	8,019	21,718	21,173	56.2	51.0	16,898	8,285	11,227	11,497
Wabash	Oct.	2,392	9,308	387	10,816	11,370	1,251	1,096	143	1,419	1,446	459	360	4,839	8,376	8,261	77.4	72.7	2,440	705	872	1,689
	10 mos.	2,392	86,579	4,281	100,899	93,070	12,024	10,852	1,318	14,386	14,410	4,494	3,476	46,648	81,079	76,300	80.4	82.0	19,819	6,658	5,229	4,866
Ann Arbor	Oct.	294	750	10	768	811	85	87	9	169	137	45	36	369	684	646	89.1	79.7	84	56	....	99
	10 mos.	294	7,206	10	7,384	7,330	892	807	71	1,614	1,521	423	345	3,625	6,723	6,432	91.0	87.8	661	566	—134	282
Western Maryland	Oct.	844	2,432	....	2,602	4,363	522	519	48	758	795	293	112	1,091	2,690	2,941	103.4	67.4	88	6	287	1,109
	10 mos.	844	35,156	....	36,686	37,533	5,357	5,166	483	7,949	7,583	2,772	1,234	12,544	29,200	28,560	79.6	75.9	7,486	4,241	6,643	7,803
Western Pacific	Oct.	1,188	4,545	173	4,851	5,105	572	499	80	751	669	221	261	1,694	3,618	3,354	74.6	65.7	1,253	525	572	903
	10 mos.	1,188	41,884	2,088	45,100	45,185	5,547	5,644	807	6,921	6,662	2,181	2,434	16,142	34,138	32,556	75.7	75.4	10,962	4,606	5,445	6,151
Wisconsin Central	Oct.	1,031	2,364	15	2,535	3,160	354	293	43	412	396	110	108	1,159	2,179	2,155	85.9	68.2	356	200	—85	654
	10 mos.	1,031	25,429	252	27,279	27,946	3,742	3,336	433	4,429	4,351	1,089	1,019	11,788	22,460	21,601	82.3	79.9	4,820	1,947	928	2,079

MARKET OUTLOOK *at a glance*

Carloadings

Carloading figures for the week ended Dec. 26, 1959, were not available when this issue of Railway Age went to press.

Loadings of revenue freight for the week ended Dec. 19 totaled 615,365 cars; the summary, compiled by the Car Service Division, AAR, follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, Dec. 19

District	1959	1958	1957
Eastern	92,734	86,423	89,362
Allegheny	121,040	97,886	108,357
Pocahontas	55,764	52,300	55,209
Southern	116,630	109,322	112,764
Northwestern	70,689	62,736	64,008
Central Western	114,267	116,475	111,321
Southwestern	44,241	46,005	49,293
Total Western Districts	229,197	225,216	224,622
Total All Roads	615,365	571,147	590,314
Commodities:			
Grain and grain products	43,274	53,719	55,265
Livestock	4,838	4,438	5,509
Coal	121,819	127,316	129,505
Coke	11,936	8,868	8,349
Forest Products	40,775	35,102	37,451
Ore	31,980	13,605	17,361
Merchandise l.c.l.	37,148	40,270	45,113
Miscellaneous	323,595	287,829	291,761
Dec. 19	615,365	571,147	590,314
Dec. 12	641,972	589,353	603,140
Dec. 5	649,639	594,884	617,836
Nov. 28	574,126	539,489	553,722
Nov. 21	629,362	619,754	632,763
Cumulative total, 51 weeks	30,521,886	29,794,062	35,090,550

PIGGYBACK CARLOADINGS.—U. S. piggyback loadings for the week ended Dec. 19 totaled 8,673 cars, compared with 5,917 for the corresponding 1958 week. Loadings for 1959 up to Dec. 19 totaled 408,872, compared with 272,536 for the corresponding period of 1958.

IN CANADA.—Carloadings for the seven-day period ended Dec. 14 totaled 66,073 cars, compared with 71,284 for the previous seven-day period, according to the Dominion Bureau of Statistics.

Totals for Canada:	Revenue Cars Loaded	Total Cars Rec'd from Connections
Dec. 14, 1959	66,073	28,980
Dec. 14, 1958	65,620	26,742
Cumulative Totals:		
Dec. 14, 1959	3,711,099	1,350,066
Dec. 14, 1958	3,622,870	1,346,995

New Equipment

FREIGHT-TRAIN CARS

► *Canadian Pacific.*—Purchased 500 50-ton insulated all-steel box cars from National Steel Car.

► *Great Northern.*—Ordered 500 50-ton box cars from St. Cloud, Minn., company shops. Subsidiary Western Fruit Express ordered 200 70-ton insulated box cars from Alexandria, Va., company shops. Deliveries depend on availability of steel. Both orders are part of a 1,160-car program authorized for GN in 1960 (RA, Oct. 26, p. 67).

► *Milwaukee.*—Authorized acquisition of 750 new freight cars, all to be equipped with roller bearings, at a total cost of about $9,700,000. Program will include 500 50-ft, 70-ton wide-door box cars; 100 60-ft, 70-ton flat cars; 100 70-ton covered hopper cars; 50 50-ft, 70-ton box cars equipped with damage prevention devices. In addition, the Milwaukee will rebuild 150 70-ton open-top hopper cars, 150 50-ton hopper cars, 125 gondolas and 150 ballast cars. Another 1,074 cars (1,000 steel box and automobile cars, 74 gondolas) will be upgraded.

LOCOMOTIVES

► *Chicago & Illinois Midland.*—Ordered two RS-1325 road switchers from Electro-Motive Division. Delivery is scheduled for September 1960. This represents the first firm order for the new RS-1325 model announced by EMD last May (RA, May 11, 1959, p. 62).

► *Honduran National Railway Authority.*—Will ask bids early in 1960 for two 35- to 45-ton, 42-in. gage diesel switching locomotives, according to Foreign Commerce Weekly.

► *United Arab Republic.*—Signed a $12,000,000 loan agreement with the Export-Import Bank of Washington and General Motors Overseas Operations Division for the purchase of 58 diesel locomotives, spare parts and shop tools. Order includes 42 units of 1,425/1,310 hp and 16 units of 1,950/1,800 hp. The locomotives will be built by Electro-Motive Division at La Grange, Ill. Delivery will be made during 1960. Under terms of a previously placed order, UAR Railways will take delivery of an additional 16 EMD units of 950/875 hp in early 1960.

New Facilities

► *Illinois Central.*—1960 roadway improvement program will involve expenditure of almost $6,500,000. Among the major projects: installation of 75 miles of new rail (including 57 miles of continuous welded rail) at a cost of $800,000.

Maintenance Expenditures

► *Down 4.2% in October.*—Expenditures by Class I roads for maintenance of equipment, way and structures in October 1959 were

(Continued on following page)

MARKET OUTLOOK (continued)

down about $10.7 million, compared to the same month in 1958, according to report of ICC Bureau of Transport Economics and Statistics summarized below:

	Oct. 1959	Oct. 1958	% Change
Maintenance of Way and Structures	$ 99,379,141	$107,355,338	—7.4
Maintenance of Equipment	145,361,059	148,107,163	—1.9
Totals	244,740,200	255,462,501	—4.2

Orders and Deliveries

► *Orders Decrease.*—Orders were placed in November for 2,624 freight cars, compared with 2,722 for October. November 1958 orders totaled 6,295. Deliveries in November totaled 2,191, compared with 2,147 in October and 1,842 in November 1958. The backlog of cars on order and undelivered as of Dec. 1, 1959, was 36,555, compared with 36,199 on Nov. 1 and 27,962 on Dec. 1, 1958.

Type	Ordered November 1959	Delivered November 1959	Undelivered Dec. 1, 1959
Box—Plain	1,610	1,063	10,811
Box—Auto	0	0	500
Flat	210	65	2,776
Gondola	0	12	5,035
Hopper	0	258	12,636
Cov. Hopper	313	344	899
Refrigerator	300	344	2,935
Stock	0	0	0
Tank	191	99	718
Caboose	0	6	195
Other	0	0	50
Total	2,624	2,191	36,555
Car Builders	1,274	1,199	18,357
Railroad Shops	1,350	992	18,198

Purchases and Inventories

► *Nine Months' Purchases Up 25.1%.*—Purchases by domestic railroads of fuel, material and supplies in last year's first nine months were $230,830,000, or 25.1%, higher than in the comparable 1958 period. Purchase and inventory estimates in following tables were prepared by Railway Age.

*PURCHASES**

	September 1959	Nine Months 1959	Nine Months 1958
	(000)	(000)	(000)
Rail	$ 170	$ 55,594	$ 34,365
Crossties	4,209	39,354	29,629
Other Material	72,666	780,535	578,829
Fuel	26,882	275,574	277,404
Total	$103,927	$1,151,057	$920,227

*Subject to revision.

INVENTORIES†*

	September 1, 1959	September 1, 1958
	(000)	(000)
Rail	$ 58,250	$ 58,757
Crossties	68,552	86,315
Other Material	421,167	438,277
Scrap	24,974	25,636
Fuel	21,767	21,076
Total	$594,710	$630,061

*Subject to revision.
†All total inventory figures taken from ICC statement M-125 for month indicated.

As the Publisher Sees It . . .

For nearly 10 years, Railway Age has been researching its readership. It is interesting to watch how reader habits have changed during that period. Back in the early '50's, anything we ran about competition had low, low readership. We once ran a story on an unusually efficient freight house operation by a large truck line. Reader interest rated so low that for quite a while we avoided further articles about the competition.

Now a Mills Shepard survey of our Oct. 12 issue shows that our story on double-bottoms captioned, "Turnpike 'Trains' May Become Truckers' Answer to Piggyback" was the best read item in that issue, and had the highest readership ratings of any story in an issue that has been researched. Under the heading "Remembered Having Seen" 92% responded affirmatively. Readers who "Read Partially" rated 91%. Readers who "Read Thoroughly" rated 56%. A lot of articles have approached these high percentile ratings, but none has quite equalled them. Apparently railroad men are sharpening their knowledge about their competitors in the all-out battle to bring business back to the rails.

Incidentally, thanks to you railroaders who have been willing to spend a few minutes with the Mills Shepard interviewers. It helps us measure your interests and guides our editorial planning.

Robert G. Lewis

Current Publications

NEW BOOKS

ECONOMICS OF TRANSPORTATION by Marvin L. Fair and Ernest W. Williams, Jr. Revised Edition, 684 pages, illustrations, charts, maps. Harper & Brothers, 49 East 33rd St., New York 16. $8.

Continuing its use of the economic function approach and its emphasis on transportation service and coordination of modes of transportation, the revised edition of this college text is somewhat shorter, completely up to date, and more streamlined.

People in the News

BALTIMORE & OHIO.—**Anthony P. Donadio,** general attorney, Baltimore, Md., appointed assistant to vice president and general counsel.

Charles J. Henry, Jr., assistant general counsel, named general attorney in charge of commerce work.

F. S. Baldinger, division freight agent, Parkersburg, W. Va., transferred to Wheeling, W. Va., succeeding **J. E. Garbesi,** who has retired.

A. Douglas Steuart, traveling agent, Baltimore, appointed district freight agent, Wilmington, Del., succeeding **Frank L. Provenzano,** who replaces Mr. Baldinger at Parkersburg.

Carroll E. Romney, chief of the rate bureau, passenger department, named general passenger agent, Baltimore, succeeding **Raymond H. Holter,** appointed general freight agent there.

C. M. Machin, Jr., supervisor shop planning, motive power department, appointed manager of motive power operation—system, at Baltimore. Mr. Machin will head a bureau newly established to control the assignment of locomotives.

CANADIAN NATIONAL.—**C. D. Weldon,** general agent, Washington, D. C., transferred to Kansas City, Mo., to succeed **Clarence F. Holt,** retired.

CANADIAN PACIFIC.—**W. G. Scott,** general secretary, **Railway Association of Canada,** Montreal, appointed manager of traffic research, CPR, Montreal.

CENTRAL OF GEORGIA.—**J. T. Parker,** general agent, New Orleans, La., appointed division freight agent, Montgomery, Ala., succeeding **Frank J. Chapman,** who retired Dec. 31, 1959. **Marion E. Barnes** appointed general agent, New Orleans. Abolished position of Gulf Coast agent at New Orleans.

DENVER & RIO GRANDE WESTERN.—**F. J. Corrigan** appointed superintendent, dining car and hotel department, Denver, Colo., succeeding **C. A. Wall,** retired.

EASTERN RAILROAD PRESIDENTS CONFERENCE.—Effective Jan. 1 the office of this conference will be located at One Exchange Place, Jersey City 2, N. J.

ELGIN, JOLIET & EASTERN.—**James W. Hartshorne** appointed supervisor of personnel, and **James F. Shimeall** named assistant supervisor of personnel, both at Chicago.

ERIE.—**James W. Conway,** assistant division superintendent, New York division, Hoboken, N.J., promoted to superintendent, Buffalo and Rochester divisions, Buffalo, N.Y. **Wilbur J. Betz** and **Robert L. Downing,** trainmasters, Hoboken, appointed assistant superintendent and passenger trainmaster, respectively, New York division, Hoboken. **Edward G. Lukow** named trainmaster, New York division.

FORT WORTH & DENVER.—**Fred A. Lewis,** assistant general freight agent, Fort Worth, Tex., promoted to general freight agent there, succeeding **Cecil L. Williamson,** resigned to accept other employment. **Carrol G. Mathews,** assistant general freight agent, Fort Worth, assigned to Mr. Lewis' former duties. **J. F. Lehane, Jr.,** assistant general freight agent, Fort Worth, retired Jan. 1.

GEORGIA & FLORIDA.—**S. A. Moore, Sr.,** appointed general car foreman, Douglas, Ga.

ILLINOIS CENTRAL.—**James E. Gardner,** coal traffic manager, Chicago, named freight traffic manager, St. Louis, succeeding **Jack H. Butridge,** transferred to San Francisco. **Jack E. Andrews,** general freight agent, Chicago, named to succeed Mr. Gardner, and in turn is replaced by **Roy A. Vinall. Alphonse D. Denis** appointed assistant freight traffic manager, Chicago. **William E. Davis,** district traffic agent, Omaha, Neb., advanced to general agent, Milwaukee, replacing **H. Harrison Peeck,** promoted. **Albert E. Bebout** succeeds Mr. Davis. Appointments effective Feb. 1.

NICKEL PLATE.—**William H. Wenneman,** vice president—finance and accounting, Cleveland, retired from that position Dec. 31, 1959, but will continue in a consulting capacity.

F. L. Essig, general car foreman, Conneaut, Ohio, appointed assistant superintendent, car department, Cleveland.

NORFOLK & WESTERN.—**J. F. Smith** appointed assistant freight traffic manager, Roanoke, Va. **A. T. Mason** named assistant to freight traffic manager.

Walter S. Clement, general superintendent, eastern general division, Roanoke, Va., appointed to the new position of resident vice president at Norfolk. **Sydney F. Small,** vice president—assistant to president, Roanoke, retired Dec. 31, 1959. **Richard F. Dunlap,** superintendent, Pocahontas division, Bluefield, W. Va., succeeds Mr. Clement at Roanoke. **Harold E. Carter,** superintendent, Norfolk division, Crewe, Va., transferred to the Pocahontas division. **Hobart L. Scott, Jr.,** superintendent, Roanoke terminals, succeeds Mr. Carter. **Charles G. Hammond, Jr.,** assistant superintendent, Radford division, Roanoke, promoted to superintendent, Roanoke terminals. **Jesse J. Kendrick, Jr.,** roadmaster, Bluefield, succeeds Mr. Hammond.

SOUTHERN PACIFIC.—**Henry J. Walker,** assistant to the president, promoted to vice president.

Milton A. McIntyre, superintendent, Los Angeles division, appointed assistant general manager, San Francisco. **Jay H. Long,** superintendent, Sacramento division, succeeds Mr. McIntyre. **Richard D. Spence,** assistant superintendent, Sacramento division, promoted to superintendent of that division. **Donald K. Miller,** assistant superintendent, Western division, Oakland, transferred to Sacramento. **William E. Corbett,** trainmaster, Fresno, succeeds Mr. Miller.

James R. Cade, assistant general purchasing agent, appointed general purchasing agent—system, San Francisco, succeeding **Mervyn C. Nystrom** (RA, Dec. 7, 1959 p. 37).

SOUTHERN PACIFIC PIPE LINES, INC.—**E. E. Mayo,** vice president, retired Dec. 31, 1959.

TOLEDO, PEORIA & WESTERN.—**Roger A. Fischer** appointed vice president—sales and service, Peoria, Ill.

UNION PACIFIC.—**Lewellyn E. Donahue** appointed general traffic agent, Lewiston, Idaho, succeeding **Howard J. Berger,** who retired Dec. 31, 1959.

Anthony P. Donadio
B&O

Walter S. Clement
N&W

Richard F. Dunlap
N&W

C. G. Hammond, Jr.
N&W

Henry J. Walker
SP

Milton A. McIntyre
SP

WABASH.—**Clarence O. Wegmann** named car accountant, St. Louis, succeeding **Louis J. Mottel,** retired. **Marion W. Hollenbeck,** assistant superintendent, Montpelier division, Peru, Ind., named assistant superintendent of transportation, St. Louis.

Fred H. Behring, assistant to local treasurer, St. Louis, retired. **Robert L. Wessel** named cashier, local treasurer's office.

William A. Lingo named assistant to vice president-traffic, to replace **William C. Streit,** retired. **Glenn F. Welker,** division passenger agent, Chicago, promoted to assistant general passenger agent, Detroit, succeeding **John P. Turner,** named district passenger agent, Houston, Tex. Mr. Turner replaces **Donald J. Peterson,** transferred to Chicago to replace Mr. Welker. **Frank A. Betancourt, Jr.,** division freight agent, Detroit, named general agent, freight department, Dallas, succeeding **Herbert W. Cook,** who retired Jan. 1.

Herbert A. Christ named purchasing agent, St. Louis, succeeding **Karl L. Bronner,** retired.

Frank R. Micheal, engineer way and structures, St. Louis, appointed assistant chief engineer there.

Berlyn J. Payne, assistant general superintendent motive power, named general superintendent of motive power, replacing **Elwood R. Buck,** retired. **A. L. Veith,** electrical engineer, named to replace Mr. Payne.

CARS IN MULTIPLE CUT COSTS (*Continued from page 24*)

It was decided to sample the records according to the following rules:

(a) A "day" would be from the low point of business (3 p.m.) of one day to the same hour of the next day. (This was done to minimize the possibility of mis-pairing the count of cars entering the yard, and yard-engine hours).

(b) Every 8th day would be sampled. (The purpose was to get a sample that covered each day in the week at various times throughout the year).

(c) Tallies would be made of:

1. Cuts of cars switched per day (counted directly from the switch lists as marked).

2. Number of cars in excess of 1 per cut (total cars switched minus number of cuts switched).

3. Yard crew-hours required (from time sheets).

(d) 48 observations would be taken.

The next step was to determine the effect of (1) Cuts of cars, and (2) Number of cars, on (3) Yard crew-hours. This was done through regression analysis (sometimes known as the "method of least squares") using the equation:

$X_1 = a + b_2X_2 + b_3X_3$, in which—

X_1 is Yard Engine-hours, X_2 is cuts of Cars per day (one or more cars), X_3 is Cars per Day in excess of 1 per cut, and—

a is Yard Engine-hours independent of cars or cuts switched, b_2 is Yard Crew Time per Cut, b_3 is Yard Crew Time per Car.

First we checked to see whether there was any close relationship between X_2 (cuts of cars per day) and X_3 (cars per day in excess of 1 per cut), by determining the coefficient of correlation between the two. Finding this coefficient to be immaterial, we then solved the equation and found:

First car in a cut (X_2) increased yard engine time by 3.16646 minutes. Each additional car (X_3) increased yard engine time by .28960 minutes. Each day 808 minutes of yard engine time was independent of volume of business. (This relatively large "constant" reflects the fact that the count of yard engine-hours covers items such as lunch time, handling cabooses and engines, extra cuts on over-length trains, and some reswitching—work which may or may not be related to volume.)

The coefficient of correlation was .83 (1.00 would be perfect; .75 is good).

To check the reasonableness of these factors, we applied them to each individual observation to determine how close they reflected actual yard engine-hours under drastically varying conditions. In other words, for each observation, we multiplied the number of cuts made by 3.16646 minutes; added to that the number of cars in excess of one per cut multiplied by .28960 minutes; and added the constant of 808 minutes per day. This test showed that, using the above developed factors, we could make a reasonably close calculation of the actual yard engine-minutes used. The closeness of these calculations to actual yard-engine time can be observed in the accompanying graph. Note that a close approximation was obtained whether traffic was light or heavy.

On the basis of these factors, then, we are able to calculate the engine time required for various sizes of cuts of cars. These calculations are shown in the accompanying table.

Note that the savings in engine-minutes per car are quite striking when a cut contains two or three cars instead of one. The rate of saving is much less noteworthy when one or two cars are added to a cut of, say 30 cars.

The calculations shown here are based on incremental time only. If it is desired to make calculations on the basis of full time, it is a simple thing to spread the 808 minutes of constant time over the average incremental time.

This approach to the solution of the problem of the cost savings effected by handling cars in multiples has no "official" standing. It has, however, in several instances provided reliable results, revealing a somewhat similar pattern of decreasing cost per car as the size of cuts increase. This analysis has not been attempted on a more complicated terminal operation. However, we believe somewhat comparable decreases in cost per car would be disclosed if more extended analysis were made.

Readers who have used this approach, or others, in the solution of this problem would confer a favor on the writer by giving him the benefit of their experience.

WHEEL SLIP (*Continued from page 17*)

cycling condition. Complete removal and too slow reapplication of power provide an interval during which the train slows down. Combined with a succession of slippery spots, successive power reductions may cause stalled trains.

● Full tractive force should be restored with minimum loss of time and momentum.

Curves, such as shown in the adhesion-speed chart, are so familiar as to be generally accepted without question. Lacking good means of slip detection and correction, practical railroaders have used such curves as the best criteria available to insure that a locomotive starting a trip with a train would stand a pretty good chance of completing the run without stalling.

Recent investigations have produced the data on which the typical profile chart is based. These data are not basically inconsistent with past observations. They explain how these earlier observations could be made. They also go much further and promise that, over a large percentage of track surface, high adhesions are obtainable at high as well as low speed by the use of slip-detection and slip-correction means now available.

Dividends Declared

BESSEMER & LAKE ERIE.—$3 preferred, $1.50, semiannual, payable Dec. 1 to holders of record Nov. 13.

BOSTON & ALBANY.—$2.25, payable Dec. 31 to holders of record Dec. 16.

CHICAGO, BURLINGTON & QUINCY.—year end, $2, payable Dec. 23 to holders of record Dec. 4.

CHICAGO GREAT WESTERN.—Stock dividend, 2½%, payable Jan. 6 to holders of record Dec. 15.

CINCINNATI, NEW ORLEANS & TEXAS PACIFIC.—5% preferred, $1.25, quarterly, payable March 1, June 1, Sept. 1 and Dec. 1, 1960, to holders of record Feb. 15, May 13, Aug. 15 and Nov. 15, respectively; $4, semiannual, payable Dec. 22 to holders of record Dec. 8.

COLORADO & SOUTHERN.—common, year end, 25¢; 4% non-cumulative, 2nd preferred, $4, annual, both payable Dec. 30 to holders of record Dec. 16.

DELAWARE & BOUND BROOK.—50¢, quarterly, paid Nov. 20 to holders of record Nov. 13.

DELAWARE & HUDSON.—50¢, quarterly, payable Dec. 28 to holders of record Dec. 8.

KANSAS CITY SOUTHERN.—Common, $1, quarterly, payable Dec. 31 to holders of record Nov. 30; 4% non-cumulative preferred, 50¢, quarterly, payable Jan. 15, 1960, to holders of record Dec. 31, 1959.

KANSAS, OKLAHOMA & GULF.—6% preferred A, $3, semiannual; 6% non-cumulative preferred B, $3, semiannual; 6% non-cumulative preferred C, $3, semiannual; 3% non-cumulative preferred $6, all payable Dec. 1 to holders of record Nov. 21.

MISSOURI PACIFIC.—60¢, quarterly, payable Jan. 1, 1960, to holders of record Dec. 18, 1959.

NEW YORK CENTRAL.—Year end, 25¢, payable Jan. 25, 1960, to holders of record Dec. 28, 1959.

NEW YORK, CHICAGO & ST. LOUIS.—50¢, quarterly, payable Jan. 2, 1960, to holders of record Nov. 27, 1959.

NEW YORK & HARLEM.—common, $2.50, semiannual; 10% preferred, $2.50, semiannual, both payable Jan. 1, 1960, to holders of record Dec. 15.

You Ought To Know...

Government guarantee of a $300,000 loan to the New York, Susquehanna & Western has been approved by the ICC. Proceeds may be used to finance capital improvements or to reimburse Susquehanna's treasury for improvements made during the past two years. The Commission denied another Susquehanna application for guarantee of a $200,000 loan to finance maintenance work.

Fare increases averaging 28% for most multiple-ride tickets between New Jersey and New York City have been proposed by the Pennsylvania in tariffs filed with the ICC last week. The increases are intended to bring PRR commuter fares in the area up to the general level in effect on other New Jersey railroads.

New president of the Car Department Association of St. Louis is Hugh D. Smith, of the Terminal Association of St. Louis. Other 1960 officers: J. C. Heyer, MP; R. K. Lytle, NKP; and John Bell, NYC, all vice presidents; John J. Murphy, ART, secretary; Jesse A. Howell, NKP, treasurer.

About $300,000 a year will be saved, it is estimated, through the merger of the Charleston & Western Carolina into the Atlantic Coast Line. The 342-mi C&WC became the Western Carolina Division of ACL on Dec. 31.

Highway user revenues "must not be drained off for purposes other than roads, such as mass transit," says Arthur C. Butler, director of the National Highway Users Conference. He predicts that by 1970 there'll be 100 million motor vehicles on the roads (compared with today's 70 million). User revenues, he contends, must go to solve tomorrow's highway traffic problems.

Service tailored to the customers' needs—both passenger and shippers—will be a top goal on the Reading in 1960, says President Joseph A. Fisher. On the passenger side, there'll be "drastic steps" to curtail service where there is low public demand. On the freight side, "increasing emphasis will . . . be placed on offering the type of transportation service best suited to shippers' needs —rail, truck, truck-water-truck, trailer-on-flatcar."

Locomotive Engineers Journal, a 93-year-old monthly, made its last appearance in December. Effective Jan. 1, the BLE placed its primary intra-union communications effort behind the bi-weekly tabloid Locomotive Engineer. Reasoning on the publication merger: consolidation will save up to $80,000 annually on printing-mailing costs, will enable the brotherhood to do a faster, more efficient job of communicating.

M. A. MacPherson has been appointed chairman of Canada's Royal Commission on Railway Transportation. He is successor to Charles P. McTague, who resigned for reasons of health. Mr. MacPherson, a Regina lawyer, is a former attorney-general and treasurer for the province of Saskatchewan. Mr. McTague's place on the commission will probably go unfilled, reducing the group from seven to six members.

An employee courtesy program of the Atlantic Coast Line has been singled out by Public Relations News, a publication in the communications industry, for having won praise from passengers, shippers and news media.

Huge increases in steel industry-related carloadings are being predicted for the first quarter of 1960 by the Great Lakes Regional Shippers Advisory Board—provided there's no resumption of the steel strike. The board foresees increases of 198.1% in ore and concentrate loadings, 32.9% in iron and steel, 17.5% in coal and coke.

Railroads must adjust their services "to give the public what it wants and is prepared to pay for," Stanley F. Dingle, Canadian National's vice president—operation, told the Canadian Railway Club of Montreal. Mr. Dingle said "the 1960's hold out a promise to the railways, but the promise is conditional . . . upon the ingenuity and skill of railroaders in meeting the competitive requirements of the transportation market today, and even more important, tomorrow."

Shipments of scrap iron and steel to domestic and foreign users will total 32-34 million tons in 1960, according to the Institute of Scrap Iron & Steel, Inc. Shipments in 1959 amounted to about 28 million tons.

COMING NEXT WEEK . . .

Tell the People: Give Passenger Trains a Break!

Railroad passenger service suffers mostly from man-made ills. A special report tells who's responsible and what's needed to maintain the hard core of intercity business.

What's Holding Up Railroad Mergers?

Are railroad mergers just so much talk? Thirty roads have undertaken studies in the past three years. Four have merged. What are the chances for others getting together in 1960?

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U. S.
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BONDS

How's Your Who's Who?

The 14th revised edition of "Who's Who in Railroading" has appeared recently. More than 5,000 biographical sketches have been included, 1,500 of them for the first time. Editorial preparation of the book was based entirely upon biographical data submitted by the listees.

Because some listees did not return the information necessary to bring job listings and other data up to date, a number of the sketches reflect the biographee's status as it existed as of publication of the prior edition. If you are one of these biographees, or have otherwise noted an error in your sketch, the editor of "Who's Who in Railroading" would like to have this information promptly. An addendum containing errata and corrections of several typographical errors will be published late this month. Closing date for additions and corrections is January 20. Send your information to the editor, "Who's Who in Railroading", Simmons-Boardman Publishing Corporation, 30 Church Street, New York 7, New York.

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We have an unusual sales opportunity for someone—WILL IT BE YOU?

We need a Salesman with proven experience in selling to railroads. He must have a sales personality with some experience in engineering.

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No More Wage Increases?

The surest way—indeed the only way—to raise *real* wages continuously, for everybody, is not to raise money wages at all. Keep the level of wage rates, as expressed in money, steady. As efficiency of production rises, with wage levels even, competition forces prices down—and *everybody's* real wages (buying power) goes up.

[Steady wage levels do not mean, of course, that people promoted to more responsible jobs wouldn't get more money, or that individual employees wouldn't get merit increases—as their proficiency, compared to that of the average employee, rises. What a steady wage level means is that the average job that pays $2 an hour for average performance would keep on paying $2.]

Both managements and union leaders for the past two decades have weakly gone along with wage policies which have been dictated by politics— contrary to economic considerations and common sense. Industrial managements (notably in the steel industry) have begun to rebel at further pursuit of wage policies they know to be unsound. But even those managers who are resisting stiff increases in wage rates haven't yet got their fortitude up to the point of coming out flatly against any increase whatever in the wage level.

Most managers who resist demands for sharply higher wages seem to be willing to concede increases which would absorb all the annual increases in "productivity"—maybe 2% or 3% a year. Such increases are, of course, not as dangerous as those that go higher, and result in sharp increases in commodity prices. But it isn't just wage increases that are so high they have to be "passed on" in big price increases that are inflationary. Any and all increases in the *general level* of wages are inflationary. Here is why:

The places where "increased productivity" occurs (not because of greater efficiency of labor but because of more efficient machines and methods) are in the mechanized, mass-production industries. Suppose "productivity" rises in one of these industries so that an increase of 25¢ per hour would exactly absorb all the gains in "productivity." If labor in that industry were awarded an increase of that full amount, the industry involved would still have to increase its prices to some degree—to raise the money to pay for the new machinery which increases efficiency of production. That price rise—however small—would, of course, constitute inflation.

But there's more inflation than that involved, even in a modest increase in the wage level of mass production industries (i.e., those businesses where efficiency of production *does* increase regularly). Employees in such an industry who have been getting, say, $2 an hour, now get $2.25. What do the butchers and the grocers and the barbers and the garment and building trades—where there is no increase in production per employee—then do about wages, when the community's big employer pays his help 25¢ more an hour? Why, of course, wages in those non-mechanized trades have to go up proportionately. And, since there's no increased "productivity" in these trades to absorb the higher labor cost, every nickel of the increased cost is added to prices—of food, of clothing, of haircuts, of housing.

Up goes the cost of living. Up goes inflation. Down goes the value of the dollar. And not from extravagant wage increases — but from those barely sufficient "to match increased productivity in mechanized industries."

If money wages stay level as efficiency of production rises, everybody automatically gets an increase in real wages — because competition drives commodity prices down while monetary wages do not fall. The fellow getting $100 a week keeps on getting $100, but his $100 buys $110 or $120 worth of housing, clothing, haircuts and automobiles.

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TELL EMPLOYEES THE FACTS: Most important employers of labor know the foregoing analysis is factual. But very few of them have so far got up the courage to defend their convictions. Sooner or later they will have to take a stand. It would be better to take it while the dollar is still worth 30¢ than to wait until it's worth only 1¢ or less.

Most labor leaders also are smart enough to know that this analysis is accurate. But union politics does not yet make it expedient for them to admit it. What is needed badly—in all industry, including railroads — is an extensive, intensive and persistent educational campaign among employees, to show how general increases in money wages inevitably bring decreases in *real* wages (i.e., the things that money will buy).

SPECIAL MESSAGE FROM OTTAWA ON CUTTING PIGGYBACK COSTS

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Here it is—the new Ottawa Commando YardHustler! A time and work-saver for rail and truck terminals. Maneuverability for spotting and "piggybacking" trailers easily and quickly. Powerful to handle your heaviest loads. Flexible to operate many "uni-tools." Plus Ottawa's quality certified craftsmanship. Nation-wide Commando distributor service organization, plus unique air-lift parts-service plan practically abolishes downtime. Write today for Commando YardHustler literature—it will "open your eyes." Ottawa Steel Division, Ottawa, Kansas.

- **Does the work of 2½ regular "yard horses"**
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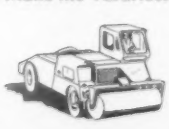
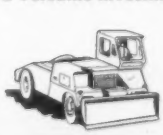


Sweeper



Snow Plow

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*Certified under A.A.R. Specification M-901-53, Waugh-Gould Type 700 Draft Gear has an official average capacity of 51,600 ft. lbs. at 2.62" average gear closure with average reaction of 1,006,200 lbs. Half travel capacity, 10,640 ft. lbs. or 20.6% of capacity at full travel.

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